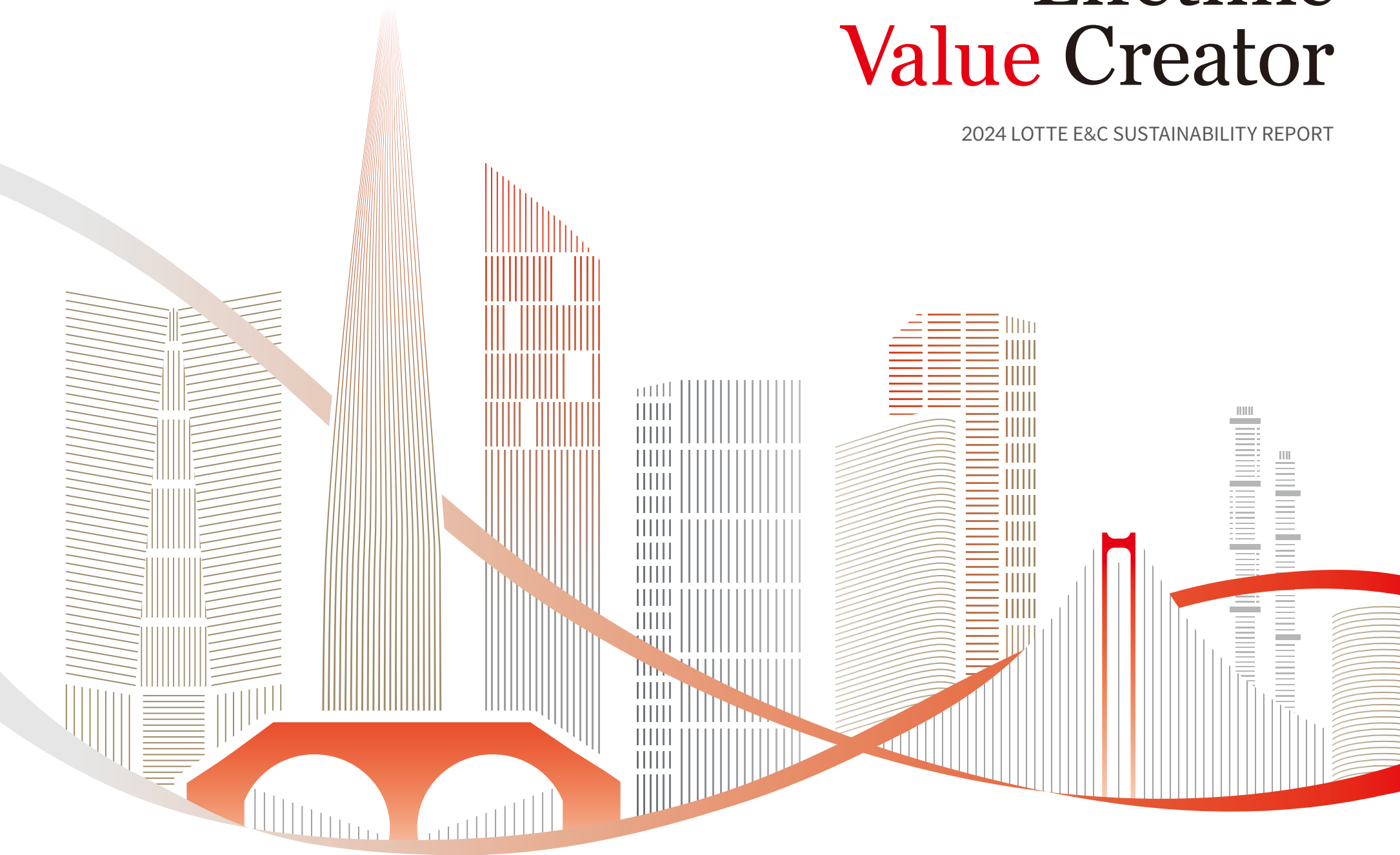


Lifetime Value Creator

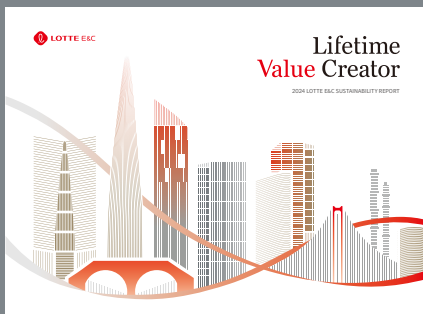
2024 LOTTE E&C SUSTAINABILITY REPORT



ABOUT THIS REPORT

LOTTE E&C has been transparently sharing its sustainability activities and performance through its annual Sustainability Report since 2013. The report outlines the Company's sustainability management direction and strategy, business performance, and sustainable sales calculation based on K-Taxonomy, providing essential information for decision-making by various stakeholders, including investors. The report also highlights communication activities with key stakeholders and the Company's efforts and achievements in pursuing the UN's Sustainable Development Goals (SDGs).

COVER STORY



At LOTTE E&C, we aspire to make a positive impact and foster meaningful change in every facet of life. Our commitment to evolve as a sustainable company is vividly illustrated with the vibrant lines of our architecture, symbolizing the seamless flow of life we share with all people.

CONTACT POINT

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E-Mail	lottenc_csr@lotte.net
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Reporting Standards

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards 2021 and International Financial Reporting Standards (IFRS) S1-S2 which are the international standards for sustainability management. It covers our governance, strategy, risk management, indicators, and targets on key issues. Additionally, to address activities specific to the construction industry, the Company has incorporated recommendations from the Sustainability Accounting Standards Board (SASB), the UN Sustainable Development Goals (SDGs), the Task Force on Climate-related Financial Disclosures (TCFD), and some of the recommendations of the ESRS, which is the disclosure standard of the European Corporate Sustainability Reporting Directive (CSRD).

Reporting Period

The reporting period for this report begins on 1 January 2023 and ends on 31 December 2023, and includes some activities and achievements from the first half of 2024.

Reporting Scope

The financial results in this report follow K-GAAP standards up to 2022 and Korean International Financial Reporting Standards (K-IFRS) from 2023 onwards. The report covers financial information from both domestic and international business sites. For certain data, specific standards are applied, and the scope of this data is detailed in footnotes and endnotes or additional explanations. Non-financial performance data is primarily based on LOTTE E&C's domestic operations, with some qualitative performance metrics also including overseas operations.

Reporting Cycle

Annual (The latest one was published in July 2023)

Reporting Assurance

This report has been independently assured by BSI to ensure the reliability, fairness, and completeness of the preparation process and data. Along with that, the GHG emissions have been independently assured by LRQA to ensure their validity and reliability, using the Assurance Standard 1000 (AA1000). The results of these assurances can be found on pages p.142-147.

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CEO MESSAGE



We are dedicated to “enriching human life” and building a sustainable future by advancing sustainability management.

Dear valued stakeholders,

At LOTTE E&C, we are steadfast in our commitment to building a sustainable future, guided by our group vision of being a “Lifetime Value Creator”. In the face of recent economic uncertainties and complex crises at home and abroad, the construction industry has encountered significant challenges. However, LOTTE E&C is poised for a new era of growth, with innovation and sustainability at the heart of our mission. With our 2024 Sustainability Report, we aim to share with our valued stakeholders the achievements of our unwavering efforts to fulfill our corporate social responsibilities and create sustainable value, even amidst challenging business conditions.

Committing to Carbon Neutrality in Response to Climate Change

As the impact of climate change on corporate value expands globally, LOTTE E&C has established the “2040 Carbon Neutrality Roadmap” and is striving to materialize its reduction goals and direction. In particular, the Company has expanded its GHG emissions calculations to include Scope 3¹⁾, allowing it to meticulously identify carbon emissions across all business activities. Building on this comprehensive understanding, the Company is actively implementing carbon reduction strategies, leveraging eco-friendly technologies such as zero-energy building construction to pave the way for a sustainable future.

Strengthening Comprehensive Safety Management

Guided by the philosophy of respect for life, LOTTE E&C places the highest priority on health and safety management, striving to create a secure working environment. In 2023, we enhanced our safety management system by elevating the existing safety

organization to the “Health and Safety Headquarters” and establishing a “Situation Room for Safety” for real-time on-site monitoring. Additionally, by piloting the supply chain ESG self-assessment, we are committed to continuously checking and improving the working environment of our partners, with a strong focus on safety.

Advancing Information Security Management Systems for Stakeholder

LOTTE E&C is dedicated to elevating our management system to proactively address potential information security risks for our valued stakeholders, including employees and customers. We are proud to have obtained the ISMS-P certification, the first in the construction industry, and are continuously promoting improvement activities. This includes forming a “Security Enhancement Task Force” to expand company-wide security checks. In 2024, the Company will voluntarily undertake information protection disclosure in accordance with the guidelines of the Ministry of Science and ICT, reinforcing our commitment to transparency. Our progress on this journey would not be possible without the support and cooperation of our stakeholders. LOTTE E&C remains devoted to upholding the confidence placed in us by our valued stakeholders by means of transparent and responsible management. We kindly request your continued interest and support as we navigate toward a sustainable and secure future. Thank you.

July 2024

President and CEO **Hyun Chul Park**

1) Scope 3: All indirect emissions related to a company's activities across its entire value chain.

BUSINESS OVERVIEW

COMPANY OVERVIEW

Founded in 1959, LOTTE E&C is dedicated to adding value to lives around the world, aligning our added value with LOTTE Group's mission. "We enrich people's lives by providing superior products and services that our customers love and trust," and its vision, "Lifetime Value Creator." As a general construction contractor, LOTTE E&C engages in all areas of the construction industry, construction industry, from residential and living spaces such as apartments, hotels, and department stores to social infrastructure like roads, bridges, and plants. The Company has provided convenient and beautiful living environments for many customers with housing brands such as "LOTTE Castle" and "LE-EL." We are leading Korea's skyscraper construction technology, exemplified by our successful construction of "LOTTE WORLD TOWER," a beloved and undisputed landmark in Korea. Since 2022, we have established the "2040 Carbon Neutral Road Map" to secure sustainable competitiveness through the development of green technologies and construction practices.

Company name	LOTTE Engineering & Construction Co., Ltd.
Date of Establishment	February 3, 1959 (Acquired by LOTTE GROUP in 1978)
CEO	Hyun Chul Park (Inaugurated in December 2022)
Head Office	29, Jamwon-ro 14-gil, Seocho-gu, Seoul, Korea
Key Businesses	Housing, Architecture, Civil Works, Plants, Overseas businesses
Major Shareholders	LOTTE Chemical Corporation (Stake: 14,819,985 shares / 44.02%)
Number of Employees	4,031 employees
Branches / Subsidiaries	· Domestic: 1 corporation / 1 branch · Overseas: 7 corporations / 9 branches
Revenue ¹⁾	KRW 6.8 trillion
Operating Profit ¹⁾	KRW 272.3 billion
Credit Rating	A+(N) (NICE INVESTORS SERVICE · KOREA RATINGS, As of: 2023.06)

1) Based on Separate Financial Statements

Key Business Areas

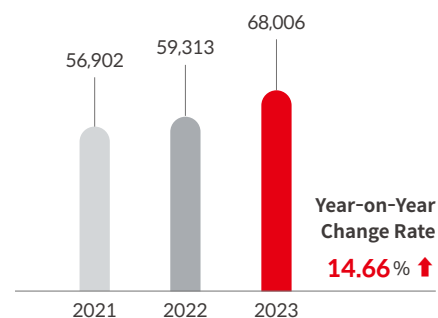


Key Financial Performance

(Based on Separate Financial Statements)

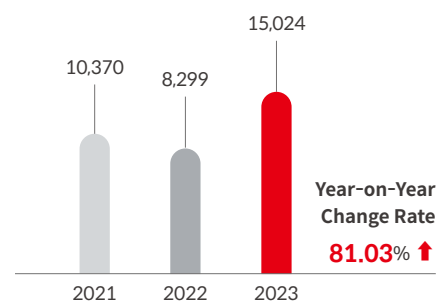
Revenue

(Unit: KRW 100 million)



Sustainable Product Revenue

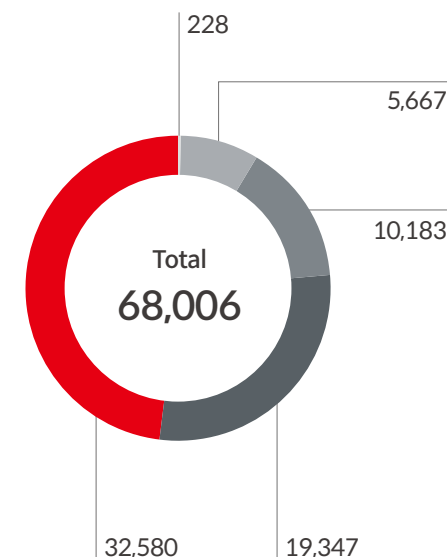
(Unit: KRW 100 million)



Revenue by business division in 2023

(Based on Separate Financial Statements)

(Unit: KRW 100 million)



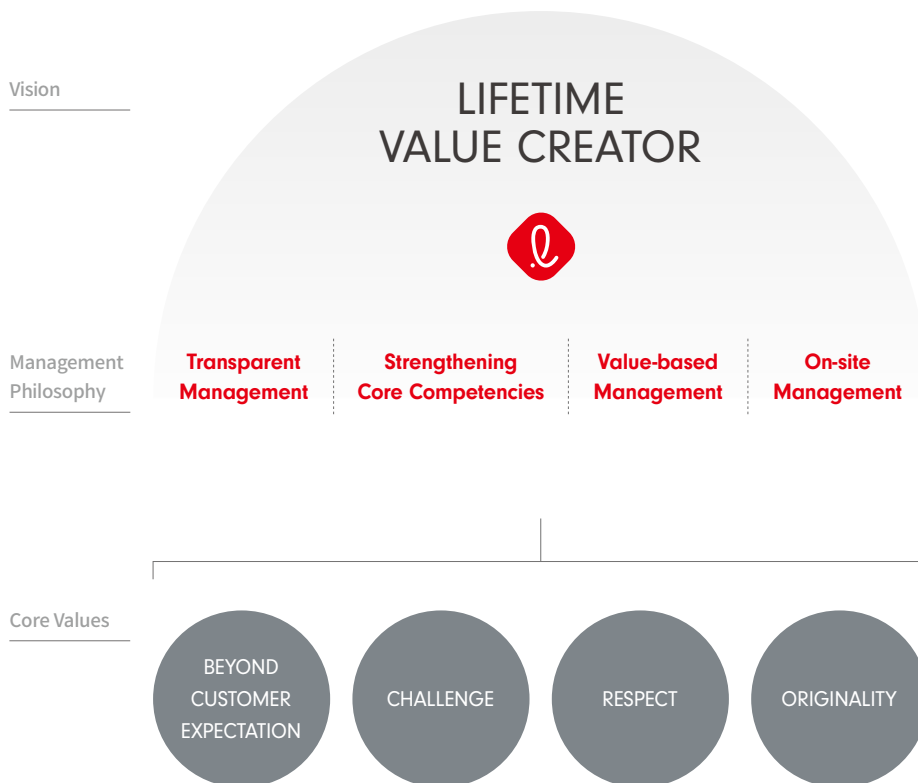
● Housing ● Plants
● Architecture ● Civil Works
● Others

BUSINESS OVERVIEW

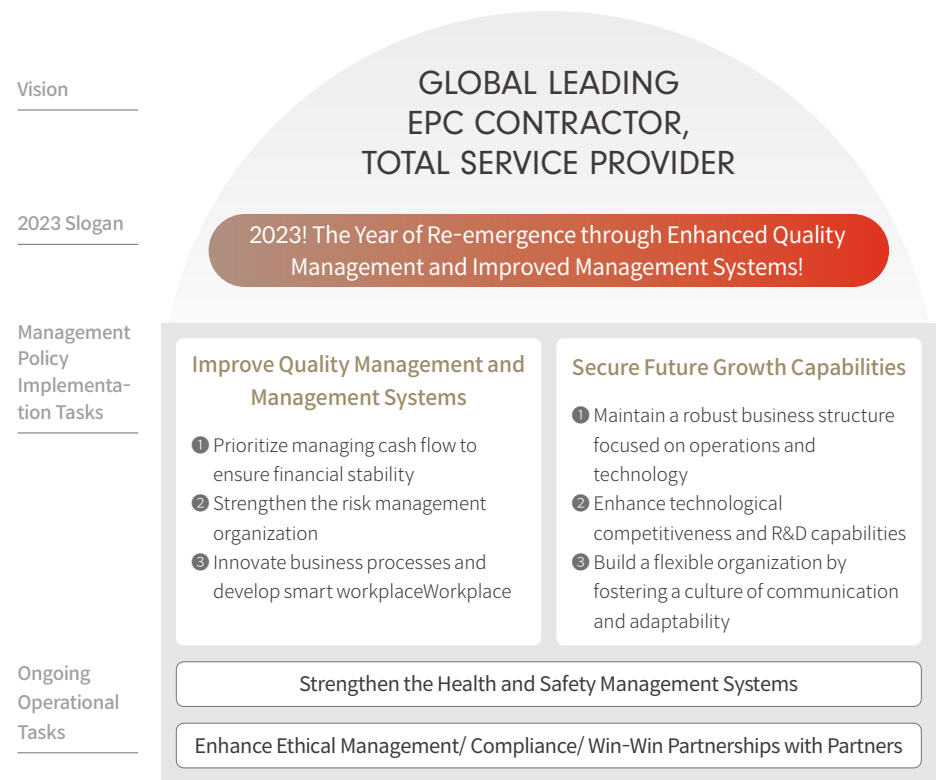
MANAGEMENT PHILOSOPHY

Each year, LOTTE E&C aligns its slogan and major tasks with the LOTTE Group's vision of "Lifetime Value Creator" for the entire life cycle. For 2023, we adopted the slogan "2023! The Year of Re-emergence through Enhanced Quality Management and Improved Management Systems!" This reflects our commitment to creating bold innovation and investments made in 2022 to drive full-scale transformation. In particular, the Company has explored various strategies to enhance quality management and strengthen our management systems, laying the groundwork for a new phase of growth and advancement.

LOTTE GROUP Vision and Management Philosophy



LOTTE E&C Vision 2030



BUSINESS OVERVIEW

GLOBAL NETWORK

LOTTE E&C has built a robust global network across 13 countries, spearheading advancements in the global market. Domestically, we operate one corporation and one branch in Korea while our international presence includes seven corporations across five countries and nine branches in nine countries. The Company is actively expanding its business reach by entering neighboring Southeast Asian countries and leveraging its extensive experience to identify and participate in high-quality projects worldwide.

Domestic

Branch offices 1 (Yeongnam District)

Corporations 1

Overseas

Branch offices 9 branch offices in 9 countries

Malaysia / Indonesia / Pakistan / Moscow / Australia / Japan / Singapore / Hungary / the Philippines

Corporations 7 corporations in 5 countries

Beijing / Shenyang / Vietnam / LOTTE LAND Vietnam / LOTTE LAND Indonesia / Malaysia / India



BUSINESS OVERVIEW

OUR SUSTAINABILITY LEGACY

Since its inception in 1959 and its integration into the LOTTE Group in 1978, LOTTE E&C has been steadfast in advancing technologies and innovating management practices. Our efforts are inspired by the Group's noble vision of being a "Lifetime Value Creator," dedicated to delivering unparalleled value in every stage of life. As we approach the milestone of our 65th anniversary in 2024, we take this moment to reflect on our journey marked by challenges and breakthroughs. With renewed dedication, we aim to continue earning the admiration of our customers and making profound contributions to the communities we serve.

1959~1977

- 1959. 02 Established Pyong Hwa Construction, Inc.
- 1970. 11 Entered overseas construction market (Won a road construction contract in Saudi Arabia)

1999~2008

- 2000. 11 Established the Ethics Secretariat
- 2002. 05 Received the grand prize at the Korea Service Grand Prix in apartment housing category
- 07 Obtained Korea's first "Construction KOSHA program" certification
- 2003. 07 Ranked 8th in the Construction Capability Evaluation (Entered the top 10)

- 1978. 09 Lotte Group acquired management rights.
- 1979. 09 Merger of LOTTE E&C Co., Ltd. (Foundation Day)
- 1981. 03 Changed name to LOTTE E&C
- 1986. 09 Established the LOTTE E&C Technology Research Institute
- 1995. 06 Obtained ISO 9001 (Quality Management System, Germany TUV)
- 1996. 11 Acquired ISO 14001 (Environmental Management System, BVQI, UK)

1978~1998

- 2010. 05 Established an ethical management pledge system for partners
- 2012. 11 Launched the CSR Committee (Currently, Sustainability Management Council)
- 2013. 07 Published the first Sustainability Report
- 2017. 03 Opened Lotte World Tower
- 08 Acquired ISMS (Information Security Management System) certification
- 12 Established an ethical management section in regular evaluation for partners

2009~2017

2018~Present

- 2019. 03 Opened LENCIS 4.0, the next generation ERP system
- 2020. 03 Held an Emergency Management Code of Conduct and Ethical Management Oath Ceremony
- 2021. 09 Established a dedicated ESG Team
- 10 Obtained KOSHA-MS transition audit certification
- 2022. 02 Opened "Safety On," a health and safety training center
- 08 Became the first company in the construction industry to acquire ISMS-P certification, a personal information protection management system
- 10 Obtained ISO 37001 certification (anti-corruption management system)
- 11 Launched "CASTLing," a service brand for customer satisfaction
- 2023. 07 Received the Grand Prize at the Korea Service Grand Prix for 22 Consecutive Years
- 09 Recognized by the Mayor of Seoul for the Seoul Eco-friendly Construction Site Operation Agreement
- 10 Opened Situation Room for Safety
- 11 Won the LACP Gold Award and recognized as a company for the 2023 Corporate Social Responsibility in the Community

BUSINESS MANAGEMENT

Dedicated to shaping the future with relentless innovation, LOTTE E&C operates both domestically and internationally across diverse sectors including housing, architecture, civil works, plants, and international projects, all driven by its distinctive technological expertise.

HOUSING	10
ARCHITECTURE	12
CIVIL WORKS	14
PLANTS	16
OVERSEAS	18
VALUE CREATION	20



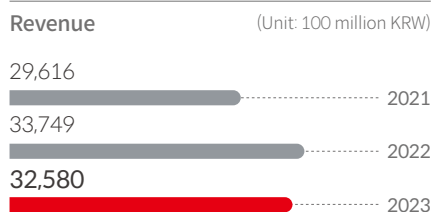
Osan Wondong Apartment Development Project | Osan Lotte Castle Sky Park

HOUSING

PERFORMANCE

2024 Korea Service Grand Prix

Won the Grand Prize in the apartment sector for 23 consecutive years (July 2024)



Based on its brand identity of “Prestige of Life,” LOTTE E&C is at the forefront of Korea’s residential culture through a range of projects, including apartments, residential complexes, and office buildings, driven by its flagship residential brand, “Lotte Castle.” The Company is also engaged in urban maintenance, development, and asset management to offer comfortable and enriching living spaces for our customers. By utilizing our premium residential brand “LE-EL” and urban residential brand “LUMINI,” we provide tailored homes that reflect our customers’ lifestyles. In addition, at VL LEWEST, high-end senior housing, we have designed specialized unit floor plans to create satisfying spaces for active seniors¹⁾, promoting physical, psychological, and social well-being. We are committed to enhancing customer communication with our satisfaction service brand “CASTLing” and offering innovative spaces that capture our customers’ residential experiences beyond just a place to relax with our newly-developed interior style “4.0 MUZE²⁾.” LOTTE E&C is committed to leading the housing industry by prioritizing customer safety, eco-friendliness, and residential convenience. We aim to enhance brand productivity and differentiate our quality and service to meet the diverse lifestyles of our customers.

1) A transitional generation preparing for old age while continuing to pursue their passions post-retirement
2) My Untitled Zone Edit story



Public bidding for Geomdan New Town 101 Station's Sphere of influence

The first complex where Elyes service was applied

Period	December 2022 – December 2027 (planned)
Location	Special Planning Area, Geomdan New Town Phase 1, Incheon, Korea
Size	7 basement floors, 37 floors above ground, 11 buildings, 372 units 682 office rooms, 328 serviced residences



Sihwa MTV Office Development Project

Marine Leisure Culture Complex near Bandalseom

Period	December 2021 – January 2025 (planned)
Location	845-1, Seonggok-dong, Danwon-gu, Ansan-si, Gyeonggi-do, Korea
Size	1 ground floor, 29 floors, 6 buildings, 284 office rooms



Yangsan Sasong B-8BL Private Rental Housing Project

The first publicly supported private rental complex in the Gyeongnam Region

Period	December 2021 – May 2024
Location	1218, Sasong-ri, Dongmyeon, Yangsan-si, Gyeongsangnam-do Province
Size	2 basement floors, 19 floors above ground, 11 buildings, 903 units

Reducing Building Energy by Replacing Fossil Fuels

LOTTE E&C is actively participating in the national carbon neutrality program in accordance with the Framework Act on Carbon Neutrality and Green Growth. With the government's carbon neutrality strategy raising the greenhouse gas reduction target to 40% by 2030, the Company is expanding its efforts to cut carbon emissions by reducing the use of fossil fuels, switching to renewable energy, and developing green technologies. We are particularly focused on implementing photovoltaic power generation systems, building integrated photovoltaic system, and geothermal heat pumps to promote eco-friendly housing. We are additionally implementing a fuel cell-based power generation system that harnesses photovoltaic modules and the electrochemical reaction of hydrogen and oxygen, thus minimizing the environmental impact with the life cycle of homes. Designing cooling and heating systems that can use geothermal heat year-round from the initial design stage and aiming for green building certification, we are also contributing to the development of sustainable cities and communities. On top of that, the Company is committed to resource recycling and waste reduction by increasing the use of green building materials, establishing a waste recycling system, reducing construction waste, and achieving recycling rate targets. We will strive to provide sustainable living environments for our customers with green investment and the development of carbon reduction technologies.

Track Record of Applying Green Building Technologies

Technology	Overview	Project name	Effect
Photovoltaic power generation system	Power generation system based on photovoltaic & photoelectric effect	<ul style="list-style-type: none"> Nowon Lotte Castle Signature (417kw) LOTTE CASTLE Riverpark Signature (195kw) Cheongnyangni Station Lotte Castle Sky-L65 (134kw) Gangneung LOTTE Castle Signature (135kw) Baekyangsan LOTTE Castle Gold Central (128kw) Sokcho LOTTE Castle In the Sky (61kw) Sinbanpo LE-EL (18kw) Changwon Lotte Castle Centum Gold (16kw) 	Reducing building energy by replacing fossil fuels
Building integrated photovoltaic system	Solar module-building exterior integrated system	<ul style="list-style-type: none"> Galwol LUMINI (30kw) Cheongnyangni Station Lotte Castle Sky-L65 (156kw) 	
Fuel Cell System	Power generation system based on hydrogen-oxygen chemical reaction	<ul style="list-style-type: none"> Suji-gu Office Sta. LOTTE Castle HiveL (61kw) Wonhyo LUMINI (30kw) Nowon Lotte Castle Signature (5kw) 	
Geothermal Heat Pump System	Cooling and heating system utilizing geothermal heat ¹⁾	<ul style="list-style-type: none"> Dobong LOTTE Castle Golden Park (439kw) Banpo LE-EL (105kw), etc. 	

1) Energy in the ground with minimal temperature variation throughout the year

ESG APPROACH OF HOUSING BUSINESS

Reduced building energy by replacing fossil fuels with photovoltaic power generation system



LOTTE CASTLE Riverpark Signature



Construction Period July 2020 – June 2023
Construction Scale 2 basement floors, 35 floors above ground, 6 buildings, 878 units



Busan Ocado Logistics Center

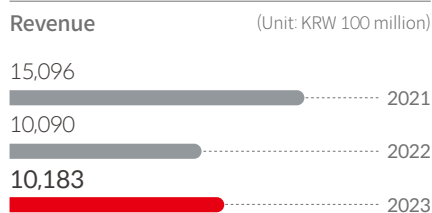
ARCHITECTURE

PERFORMANCE

Continuous connection of smart logistics centers

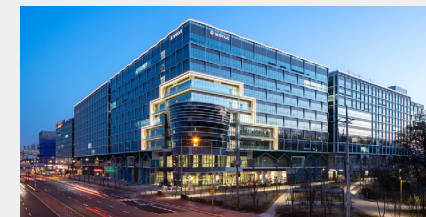
1st Busan Ocado Logistics Center
(Construction started in November 2023)

2nd Goyang Ocado Logistics Center
(in progress)



Despite external challenges including deteriorating real estate market, high interest rates, and rising raw material costs, LOTTE E&C has successfully executed a wide range of construction projects, including high-rise buildings, shopping malls, hotels, knowledge industry centers, and office buildings. These accomplishments highlight LOTTE E&C's technological prowess and expertise, laying a strong foundation for customer trust. In recent years, LOTTE E&C has focused on Group-related construction projects to enhance business stability. Specifically, the Company is applying PCS¹⁾ in order to maximize project efficiency using improvements such as design optimization, cost reduction, and shortening the construction period. By actively incorporating diverse customer needs before construction begins, we significantly improve customer satisfaction. The Company also utilizes new technologies such as BIM, AI-based unit price models, and data-driven area calculations to meet the demands of the 4th Industrial Revolution, positioning LOTTE E&C as a competitive player in the global market. LOTTE E&C remains committed to providing the best value to customers through innovative technology development and sustainable building solutions, solidifying its position as a leading construction company.

1) Pre-Con Service: A collaborative method where the owner, designer, and constructor work together from the project's early stages to mitigate construction risks.



New Construction of Knowledge Industry Center, Hanam Misa 1-1, 2BL

The largest knowledge industry center in Korea

Period November 2019 – December 2021

Location 1-1BL, 1-2BL, Hanam Misa Center for Self Sufficiency
Hanam-si, Gyeonggi-do, Korea

Size 4 basement floors, 10 floors above ground, 3 buildings, Knowledge Industry Center(1,173 rooms), neighborhood living facility (398 rooms), dormitory (392 rooms), exercise facility



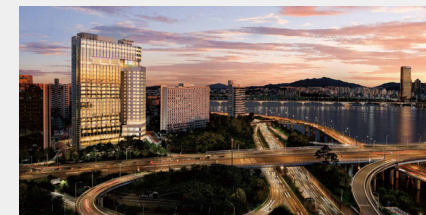
Goyang Hwajung Complex

Urban residential brand "LUMINI"

Period October 2021 – March 2024

Location 36, Hwajung-ro, Deokyang-gu, Goyang-si, Gyeonggi-do, Korea

Size 5 basement floors, 24 floors above ground, 242 office rooms, Neighborhood living facility (26 rooms)



New Construction of Mapo Pungnong Complex Tower

Hotel-linked residential building with a view of the Han River Project

Period May 2019 – July 2022

Location 309-1 Mapo-dong, Mapo-gu, Seoul, Korea, and 5 other sites

Size 5 basement floors, 24 floors above ground

Increasing energy efficiency by applying green building technologies

LOTTE E&C is committed to green construction, coordinating with the international community's efforts to achieve the United Nations' Sustainable Development Goals (SDGs). We try to minimize environmental impacts by using low emitting materials in our projects and considering the environmental impact of the completed buildings. In KT site in Guui Station Area of Mixed-use Development, the Company implemented a geothermal system, low-carbon energy technologies. We also enhanced the water circulation system by introducing a water storage tank capable of holding 860 tons of rainwater and groundwater runoff, a 148% increase from the existing required capacity of 585 tons. In an effort to reduce indoor air pollutants, we used products with low emissions of formaldehyde and volatile organic compounds, reducing both environmental impact and protecting our customers. In the SKY L-TOWER project at Cheongnyangni Station, we applied a building integrated photovoltaic (BIPV) system as a curtain wall exterior material and installed a 120kW fuel cell to enhance both eco-friendly elements and energy efficiency. Magok Knowledge Industry Center achieved a building energy efficiency rating of 1++ with cutting-edge construction technology and green design. LOTTE E&C will continue to expand the application of green building technologies to improve energy efficiency and reduce greenhouse gas emissions.

ESG APPROACH OF ARCHITECTURE

Building Energy Efficiency Rating of 1++
Excellent Green Building Rating



Track Record of Applying Eco-Friendly Building Technologies

Green design of Magok Knowledge Industry Center

PASSIVE DESIGN

- Optimized architectural performance to reduce energy usage
- Site selection that emphasizes the ecological value, natural surroundings, and landscape

ACTIVE DESIGN

- Achieved a 1++ rating for building energy efficiency
- Utilized high-efficiency equipment for heating systems
- Adopted energy-saving control technologies

RENEWABLE DESIGN

- Incorporated renewable energy sources, including geothermal and solar power

ECO DESIGN

- Earned a top green building rating
- Utilized sustainable, low-carbon building materials (e.g. ceilings, insulation, paints)

Magok Knowledge Industry Center



Construction Period July 2020 – December 2023
Construction Scale 5 basement floors, 12 floors above ground, 1 building, 303 units



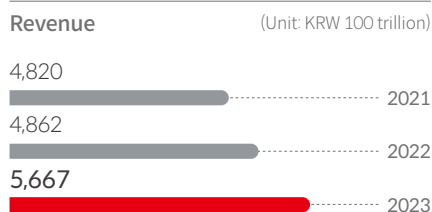
Construction of the administrative center complex city, Deulmokgyo and the outer ring road for the residential area

CIVIL WORKS

PERFORMANCE

Won the contract for modernizing
Jungnang Water Reclamation Center

Secured the construction contracts
for Gwangju Subway Line 2
(Phase 2, Section 8)



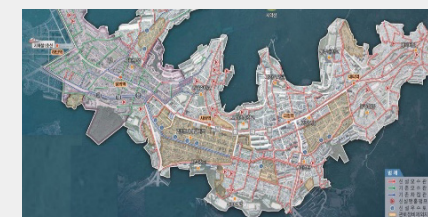
LOTTE E&C is leading the construction of transportation infrastructure, encompassing roads, railways, subways, tunnels, airports, and ports domestically and internationally. The company is also a key player in national infrastructure projects from water, sewage to dam construction. We offer comprehensive total solutions that cover every phase from planning to maintenance for both public and private projects, leveraging our extensive experience in road, rail, and subway construction to maintain our leading position in land transportation. Furthermore, LOTTE E&C is focusing water and environmental projects, utilizing our multi-year expertise in the design and construction of sewage treatment facilities. This contributes to improving water accessibility and building water treatment infrastructure in Korea. We are also strategically entering the waste and incineration furnace sectors to support environmental sustainability. Our goal is to secure a competitive edge by means of proprietary technology development and collaborative efforts with external organizations. Looking ahead, LOTTE E&C is poised to expand its environmental business and diversify its portfolio, with the dual objectives of advancing national infrastructure development and elevating the quality of life for all.



Saemangeum North-South Road Construction Phase 2 (Section 1)

Connecting the east-west axis of the three regions of the
Saemangeum Metropolitan Transportation Network Project

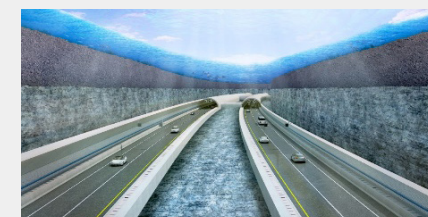
Period December 2018 – August 2023
Size Total length of 102 km (6 lanes round-trip), 10
bridges, 1 underpass, 5 access facilities, etc.



Lower Sewer District Pipeline Maintenance

Preventing water pollution and enhancing the
economic feasibility and efficiency of public
sewage treatment facilities

Period November 2021 – November 2024
Size 4.19km² area, 74.763 km of sewer pipes (including
stormwater pipes), drainage facilities for 6,280
households



National Highway 77, Section 1 of Sinan Aphae to Haenam Hwawon Road Construction Project

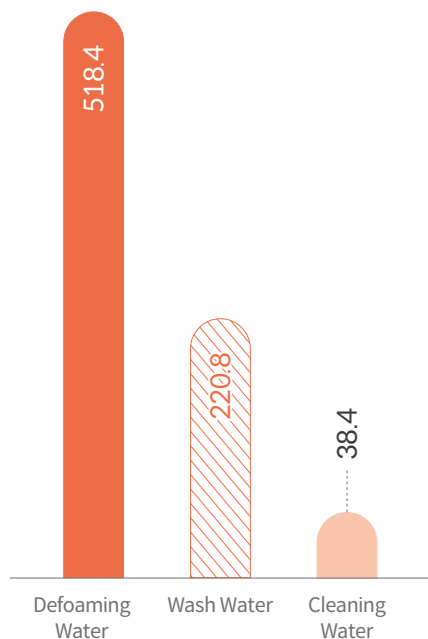
Promoting regionally-balanced development and
boosting tourism through the connection of a
submarine tunnel

Period April 2021 – March 2027
Size 5.95 km (2-4 lanes in both directions), 2.7 km tunnel,
133m/3 structures, 6 intersections (2 turn, 4 at-grade)

Improving Water Quality and Enhancing Quality of Life through Customized Treatment Facilities

LOTTE E&C is actively addressing water pollution and the transition to eco-friendly energy by implementing advanced wastewater treatment technologies, utilizing renewable energy, and introducing high-efficiency facilities. At the Yeosu Industrial Complex, completed in 2023, we constructed customized treatment facilities that consider the unique characteristics of incoming wastewater, predicting the inflow of non-biodegradable organic matter, acid-alkali wastewater, high concentrations of oil content, and heavy metals (such as Pb and Cd). Given the variety of pollutants in wastewater from the Yeosu Industrial Complex, effective management is crucial. Our new facility, with a capacity to treat 30,000 tons per day, ensures the stable treatment of large volumes of industrial wastewater. Furthermore, we achieved the efficient utilization of limited water resources by reusing 777.6m³ of water daily from the treatment process. LOTTE E&C remains committed to improving quality of life and safeguarding the environment by continuously advancing our technological capabilities and upholding environmental values. We want our company to be more responsible company contributing to national infrastructure development while rigorously adhering to environmental regulations.

Daily Reused Water Volume (Unit: m³)



Water Quality Improvement

Category	Incoming water quality	Target water quality
BOD	140.0 mg/L	10.0 or less
COD	168.0 mg/L	20.0 or less
TOC	105.0 mg/L	15.0 or less
SS	200.0 mg/L	10.0 or less
T-N	60.0 mg/L	20.0 or less
T-P	6.0 mg/L	2.0 or less
n-H	20.0 mg/L	5.0 or less
Phenolics	20.0 mg/L	5.0 or less
Total Coliform	10,000/MI	3,000 or less
Ecotoxicity	-	1.0 or less

State-Owned Yeosu Public Wastewater Treatment Plant Phase 4 Expansion Project

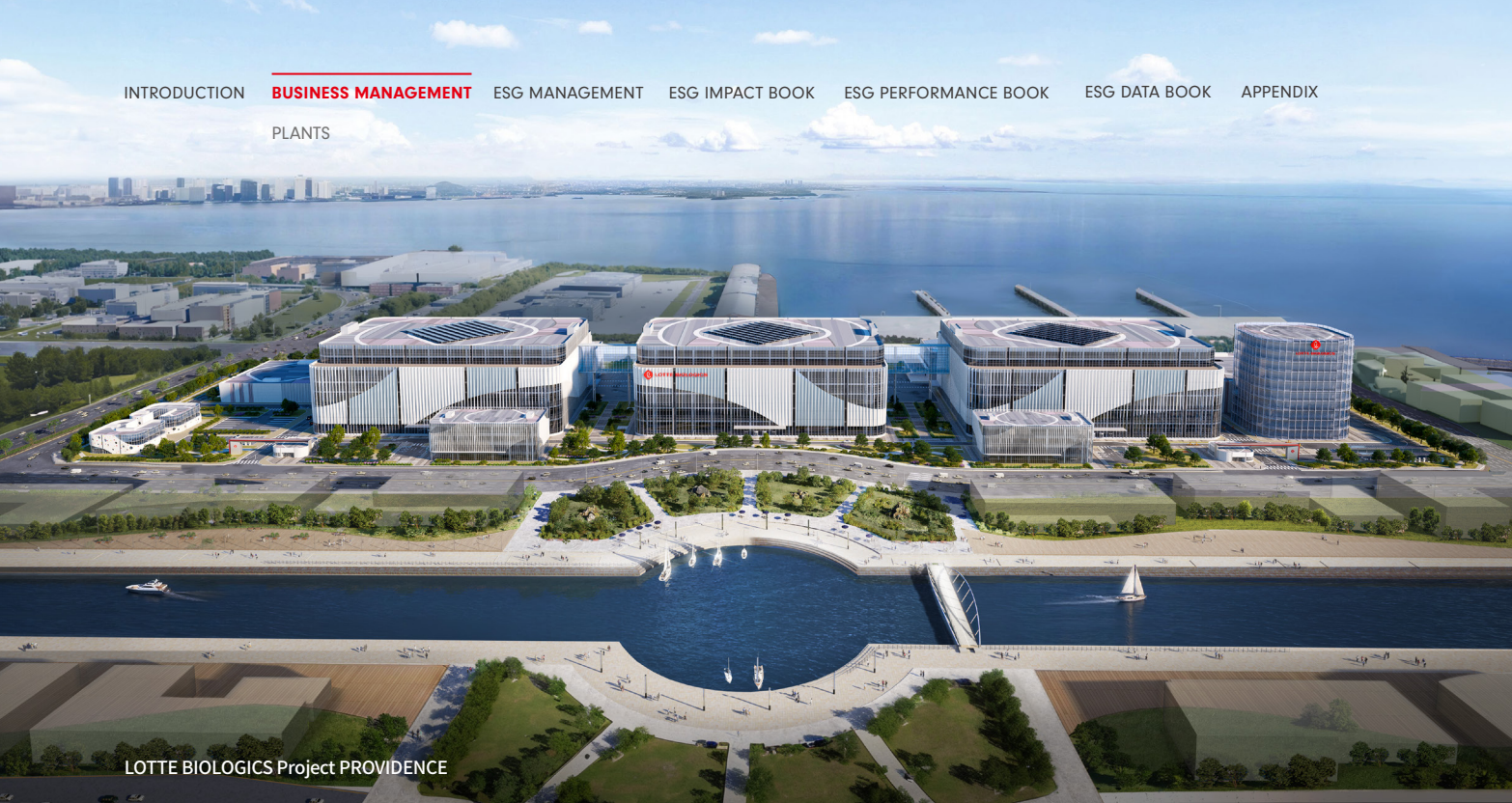


Construction Period April 2021 – October 2023
Construction Scale Wastewater treatment facility expansion to handle 30,000 tons/day

ESG APPROACH OF CIVIL WORKS

- Expanded discharge facilities to prevent water pollution in compliance with the Water Environment Conservation Act and other regulations to address the increased factory wastewater in the Yeosu Industrial Complex
- Created a pleasant living environment, improving public health for local residents.



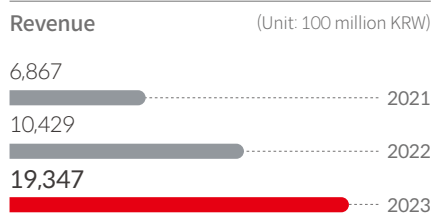


LOTTE BIOLOGICS Project PROVIDENCE

PLANTS

PERFORMANCE

Maximizing sales through EPC in large petrochemical projects and FEED (basic design) for new projects.



LOTTE E&C has a proven track record in executing national and industrial infrastructure construction projects across various fields, including petrochemical production plants, raw material storage facilities, power plants, and industrial plants. This success comes from our extensive experience and expertise in the plant business. We offer comprehensive one-stop service covering the entire project life cycle, from planning and design to procurement, construction, commissioning, and facility operation. In the chemical plant sector, the Company has built a robust system for executing large-scale projects and are actively involved in major projects both at home and abroad. We are also enhancing our capability to secure EPC orders linked to FEED in green industry sectors, such as secondary battery materials and plastic recycling. Moving forward, LOTTE E&C will strategically select and participate in high-potential projects by utilizing profitability analysis. We will also actively pursue new growth initiatives for the Group, including the construction of a CDMO (contract development and manufacturing organization) plant. Furthermore, we aim to expand our business portfolio by entering the renewable energy sector, specifically the fuel cell business, to establish a foundation for long-term sustainable growth.



SHAHEEN

Period January 2023 - May 2026
Size HDPE/LLDPE: 400KTA, Tank 21 ea
 (Ball Tank: 18 ea, Roof Tank: 3 ea)



Indonesia LINE Project

Period January 2022 - April 2025
Size PP (250,000 tons/year), BD (140,000 tons/year),
 BTX (400,000 tons/year), 11 buildings, 34 tankers,
 3 berths, and utilities.



Lotte GS Chemical G1-C3 Project

Period July 2022 - September 2024
Size New plant for Phenol and BPA (Bisphenol-A, a raw material for manufacturing transparent plastic products).

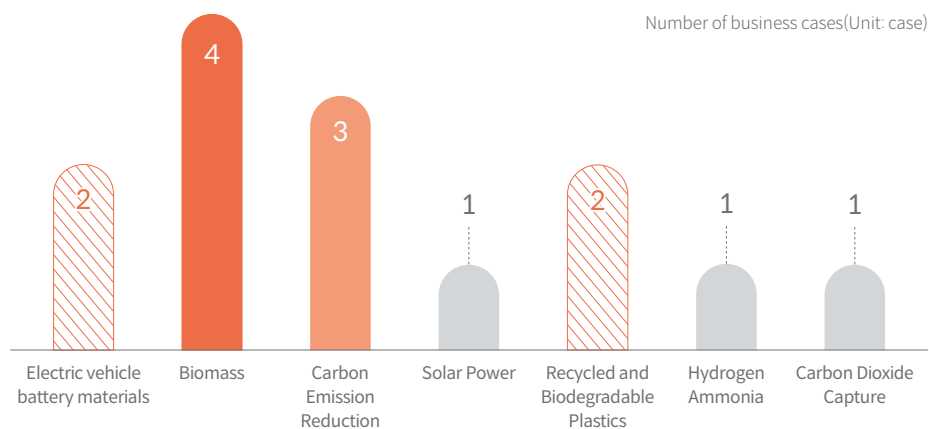
Korea's First Electrolyte Plant for Electric Vehicle Batteries

LOTTE E&C is contributing to reduce carbon emission by constructing renewable energy plants, including solar and biomass facilities, thereby increasing the share of electricity generation from renewable energy. The Company is working towards creating a sustainable energy environment as well by participating in a demonstration project to verify and commercialize ammonia-based hydrogen extraction technology. This innovative technology helps reduce GHG emissions and is expected to play a significant role in addressing climate change. The ES Project, completed in the first half of 2024, established a high-purity EC, DMC, EMC, and DEC production plant for electrolyte organic solvent materials for electric vehicle batteries at Daesan Plant of Lotte Chemical. The plant's production capacity includes 3.8 million tons per year of EC, 6.4 million tons per year of EMC, 7.0 million tons per year of DMC, 15.0 million tons per year of EOA, and 0.4 million tons per year of DEC, ensuring a stable supply of materials for secondary battery production. Global secondary battery shipments are expected to grow at a CAGR of 32%, from 221 GWh in 2020 to 3,670 GWh in 2030. The share of batteries for electric vehicles is expected to expand from 65% in 2020 to 89% in 2030, leading the secondary battery market. Using the technology and construction expertise gained by the ES Project, LOTTE E&C aims to continue growing in the market of electric vehicle battery materials and related sectors.

Performance of Eco-Friendly Plant Business

Revenue (Unit: 100 million KRW)

Electric vehicle battery materials	3,678	Solar Power	60
Biomass	4,145	Recycled and Biodegradable Plastics	205
Carbon Emission Reduction	893	Hydrogen Ammonia	4
		Carbon Dioxide Capture	10



ESG APPROACH OF PLANT BUSINESS

Built eco-friendly plants that ensure a smooth supply of materials necessary for the production of electric vehicle batteries and secondary batteries.



LOTTE Chemicals ES Project



Construction Period April 2022 – March 2024
Construction Scale EMC/DEC (secondary battery electrolyte organic solvent) and EOA (concrete strength enhancer) plants and infrastructure



Thủ Thiêm Eco Smart City in Vietnam

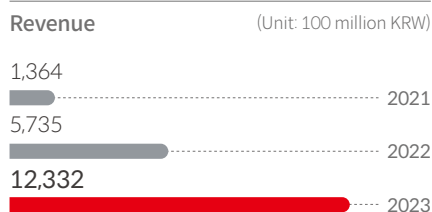
OVERSEAS

PERFORMANCE

Continued acquisition of green certifications for overseas sites

Considering EDGE certification for the Thủ Thiêm site

(incorporating solar power, rainwater tanks, etc. into residential design)



LOTTE E&C is continuously expanding its business in strategic overseas markets such as Vietnam and Indonesia to achieve sustainable growth, particularly in light of the challenging domestic construction market and real estate downturn. While overseas markets present significant opportunities, they also entail potential risk, including currency fluctuations and differences in legal frameworks. We are building expertise in these regions with meticulous strategies and continuous innovation. By promoting large-scale complex developments in collaboration with Lotte Group affiliates, we avoid simple price competition and focus on construction that demands technical expertise. In our commitment to eco-friendly business practices, we enhance our quality and competitiveness by rigorously analyzing major green building certification systems in each country, such as GGBS¹⁾, LEED²⁾, and EDGE³⁾, and actively integrating our products and services into these standards. LOTTE E&C intends to strengthen financial and non-financial risk management in its overseas projects to ensure continuous business growth and profitability. Our goal is to further solidify our position as a leading global construction company.

- 1) Green and Gracious Builder Scheme
- 2) Leadership in Energy & Environmental Design-US Green Building Council
- 3) Excellence in Design for Greater Efficiencies



Housing sites of Indonesia Depok, Sawangan

Period August 2022 - November 2025
Location Sawangan, Depok, Indonesia
Size Total 526 units (390 single houses, 103 shop houses, and 33 lots)



LOTTE Center Hanoi

Period November 2010- September 2014
Location Hanoi, Vietnam
Size 5 basement floors, 65 floors above ground, 253,134m² gross floor area 264 hotel rooms, 258 serviced residences, offices, and commercial facilities



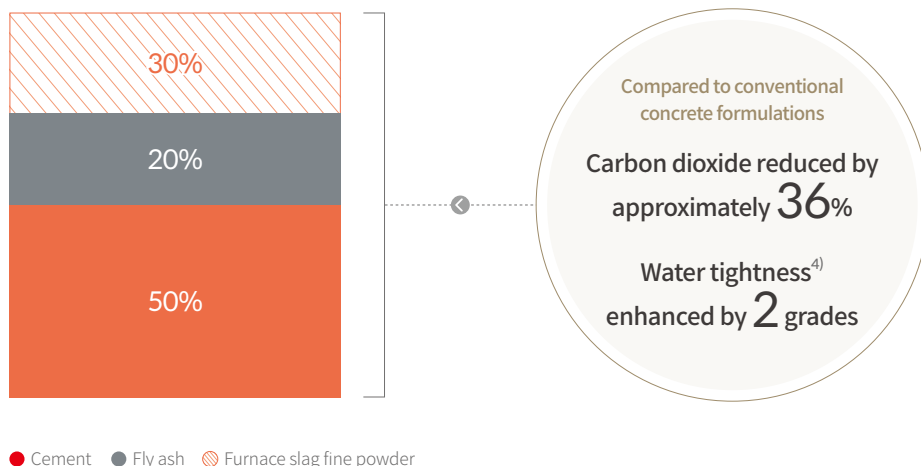
Cambodia Sathapana Bank Headquarters

Period May 2018 - January 2021
Location Phnom Penh, Cambodia
Size 4 basement floors, 19 floors above ground, 35,135m² gross floor area

Eco-Friendly Shopping Mall with Advanced Concrete Technology

In response to the global movement towards carbon reduction, LOTTE E&C is committed to incorporating green solutions into our international projects to meet the evolving needs of our global clients. A prime example of this commitment is the “Lotte Mall Westlake Hanoi” project in Hanoi, Vietnam. This development marked a milestone as the first in the region to employ 46,000m³ of eco-friendly concrete that includes slag¹⁾, resulting in a significant reduction of carbon dioxide emissions by 4,920 tons. This reduction is achieved through the use of fly ash²⁾ and furnace slag fine powder³⁾, which lower CO₂ emissions by approximately 3% compared to traditional cement-based concrete binders. Furthermore, this advanced technology decreases the heat of hydration during the concrete curing process by 10°C compared to conventional methods, and increases the long-term strength of the concrete by 20%, enhancing its durability. The Institute for Building Science and Technology (IBST), affiliated with the Ministry of Construction of Vietnam, partnered with us in this research. They are working on setting standards for slag utilization and spreading knowledge about these green technologies. LOTTE E&C is committed to ongoing collaboration with the IBST to further improve construction practices and apply green technologies in Vietnam through continued research and development. Looking forward, LOTTE E&C will continue pioneering eco-friendly construction techniques and innovative technologies to minimize carbon emissions and develop energy-efficient green buildings across our international projects.

Effects of applying eco-friendly concrete mixing technology



1) The residue left over after removing metals from ore

2) Coal ash mixed in the air when burning coal

3) Non-metallic byproduct from the steelmaking process, crushed and processed into a powder

4) The property of being sealed without water leaking out

OVERSEAS BUSINESS ESG APPROACH

Carbon dioxide reduction of approximately 36% compared to conventional concrete formulations

Water tightness enhanced by 2 grades compared to traditional concrete.



LOTTE Mall West Lake Hanoi



Construction Period November 2018 – June 2023

Construction Scale 2 basement floors, 23 floors above ground, covering a total area of 116,870 pyeong

VALUE CREATION

LOTTE E&C operates under the vision of being a “GLOBAL LEADING EPC CONTRACTOR, TOTAL SERVICE PROVIDER,” aiming to make a positive impact by delivering customer satisfaction, technological innovation, job creation, and fostering mutual growth with our partners. Simultaneously, we are committed to addressing and reducing the negative environmental impacts of our business, including GHG emissions and water usage. LOTTE E&C will continue to enhance its environmental management system to consider all stakeholders and solidify its position as a global leader in providing eco-friendly total services.

Value Creation Story

(Based on Consolidated Financial Statements)



1) Calculated as Sales - (Operating Expenses - (Salary + Welfare Expenses)) / (Salary + Welfare Expenses)

2) Separate basis based on K-Taxonomy



ESG MANAGEMENT

As a “Lifetime Value Creator” committed to delivering optimal value throughout its entire lifecycle, LOTTE E&C integrates ESG management into its business practices, using it as a benchmark for assessing corporate value. LOTTE E&C is dedicated to contributing to society and future development through sustainable value creation.

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ESG GOVERNANCE

SUSTAINABLE MANAGEMENT COMMITTEE

LOTTE E&C recognizes the significance of non-financial risks and has established the Sustainable Management Committee under the CEO to review and monitor global issues such as climate change at the executive level. The Sustainable Management Committee comprises the CEO and seven subcouncil chairs, tasked with deliberating and resolving critical economic, environmental, and social issues related to sustainability management. In principle, each subcouncil meets semi-annually. According to the rules of the Sustainable Management Committee, all departments report their ongoing activities and improvements on significant issues to the relevant subcouncil. The chairperson of the subcouncil then reports these updates to the Sustainable Management Committee through the Sustainability Management Secretariat. The minutes of the meetings are disclosed internally as a rule, and some of the contents may be disclosed to external stakeholders. The primary agenda of the Sustainable Management Committee in 2023 focused on the status of human rights and supply chain risk management, which was reported to the management by the Sustainability Management Secretariat. Based on these reports, strategies are being developed to enhance human rights management and to strengthen shared growth with partners starting from the first half of 2024.

Reporting Structure



ESG Agenda Reporting Status in 2023

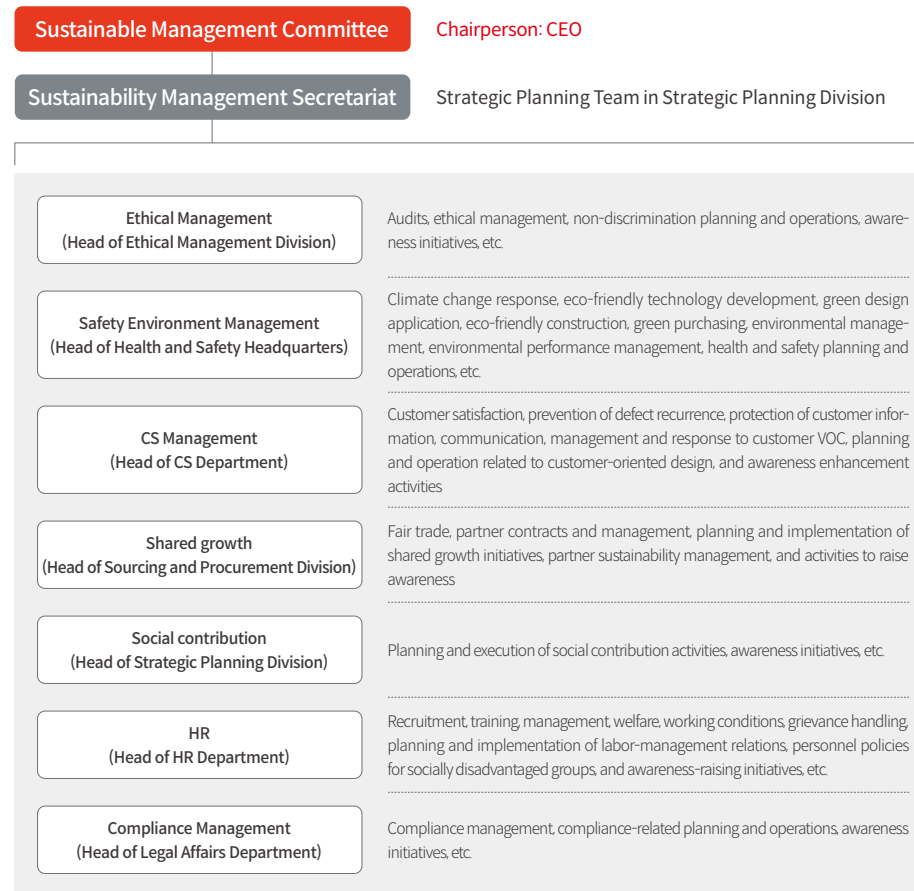
Date	Highlights
February 2023	Status of external ESG policies and trends
May 2023	Progress on annual ESG strategic tasks Results of stakeholder ESG materiality assessment
August 2023	Publish the sustainability report Implementation status of Group's 2040 Net Zero initiative Implementation status of internal human rights risk management Supply chain ESG Risk Management Status
January to December, 2023 ¹⁾	Status of Social Responsibility Management (Safety & Health/Compliance/Community, etc.)

1) In accordance with the regulations of the Sustainable Management Committee, critical issues are reported throughout the year.

SUSTAINABILITY MANAGEMENT SECRETARIAT

The Sustainability Management Secretariat serves as the executive organization within the Council for implementing sustainability management. It formulates LOTTE E&C's mid- to long-term ESG strategies and detailed strategies for each subcouncil. To add to this, it supervise and coordinates the specific activities of each relevant department.

Organization Chart and Subcouncil Management Details

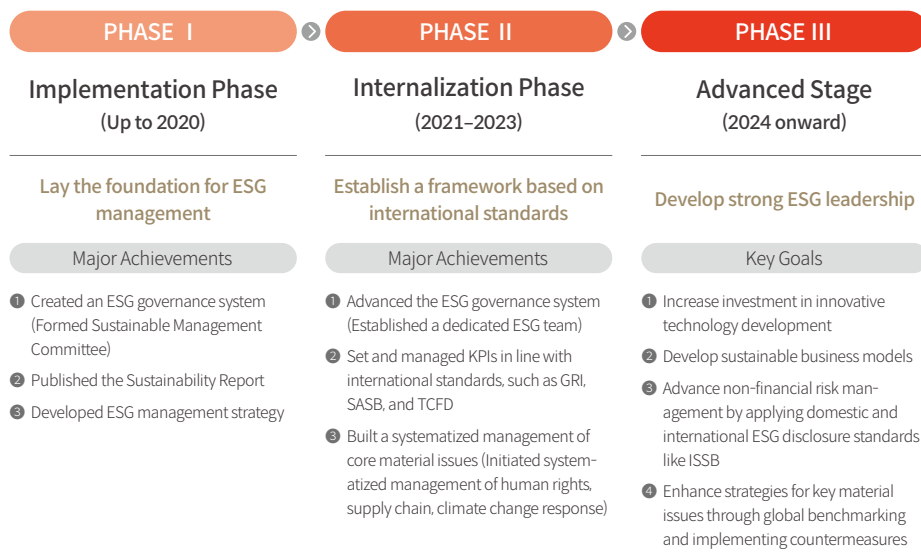


ESG GOVERNANCE

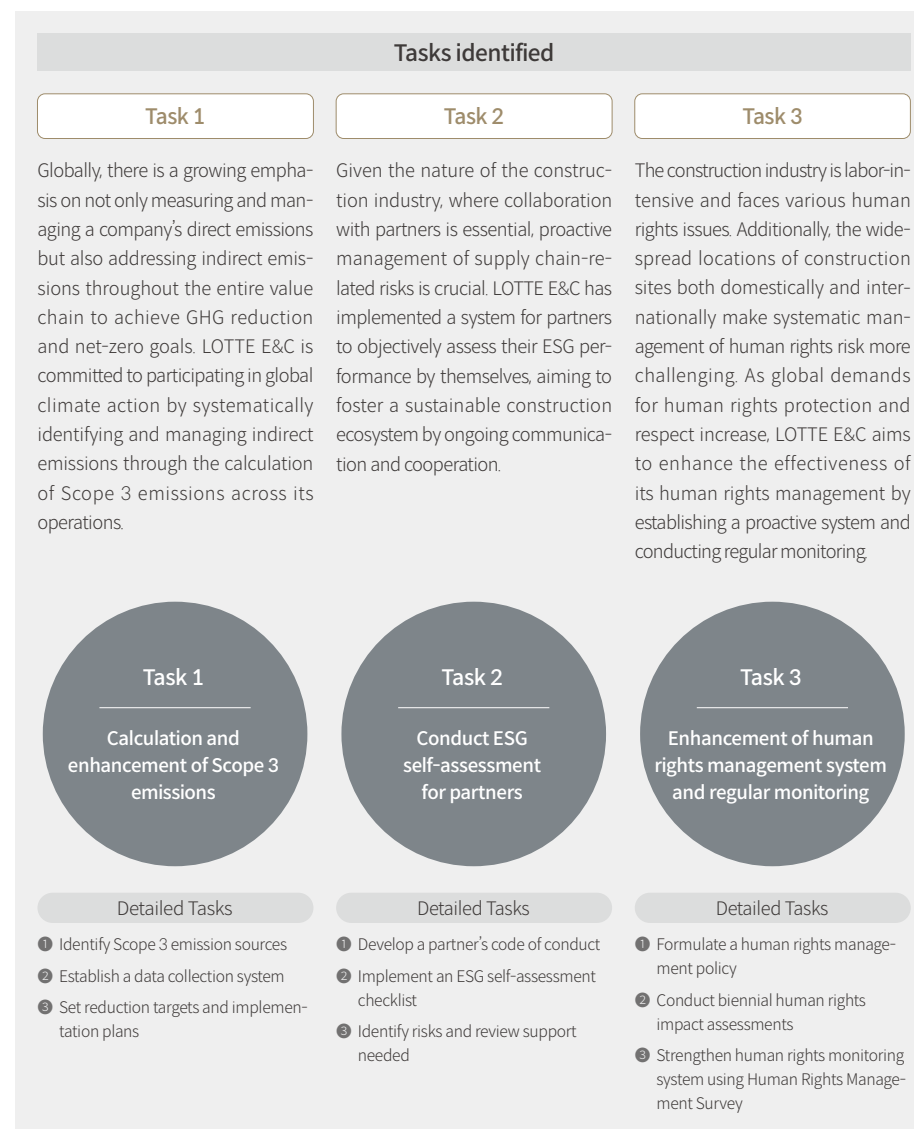
ESG MANAGEMENT ROADMAP

LOTTE E&C has established and implemented a three-phase ESG management roadmap to drive sustainable corporate growth. In 2023, we are advancing from Phase II to Phase III. To reach the next stage in ESG management, we have identified three key strategic tasks and are dedicating our resources to achieve them. In particular, the Company has calculated the Scope 3 GHG emissions starting in 2024 and identified various emission sources across our entire value chain. Based on this data, we are developing a comprehensive and detailed strategy for carbon reduction at LOTTE E&C and will promote carbon reduction initiatives throughout our supply chain. In an effort to foster a sustainable supply chain, we piloted ESG self-assessments for our partners, setting the stage for evaluating their ESG performance. We have also conducted the Human Rights Management Survey and Human Rights Impact Assessment for the second consecutive year to assess employees' perceptions of our human rights practices and to enhance our monitoring systems to protect and respect employee rights.

LOTTE E&C ESG Management Roadmap



Strategic Tasks for Enhancing ESG Management in 2023



DOUBLE MATERIALITY ASSESSMENT

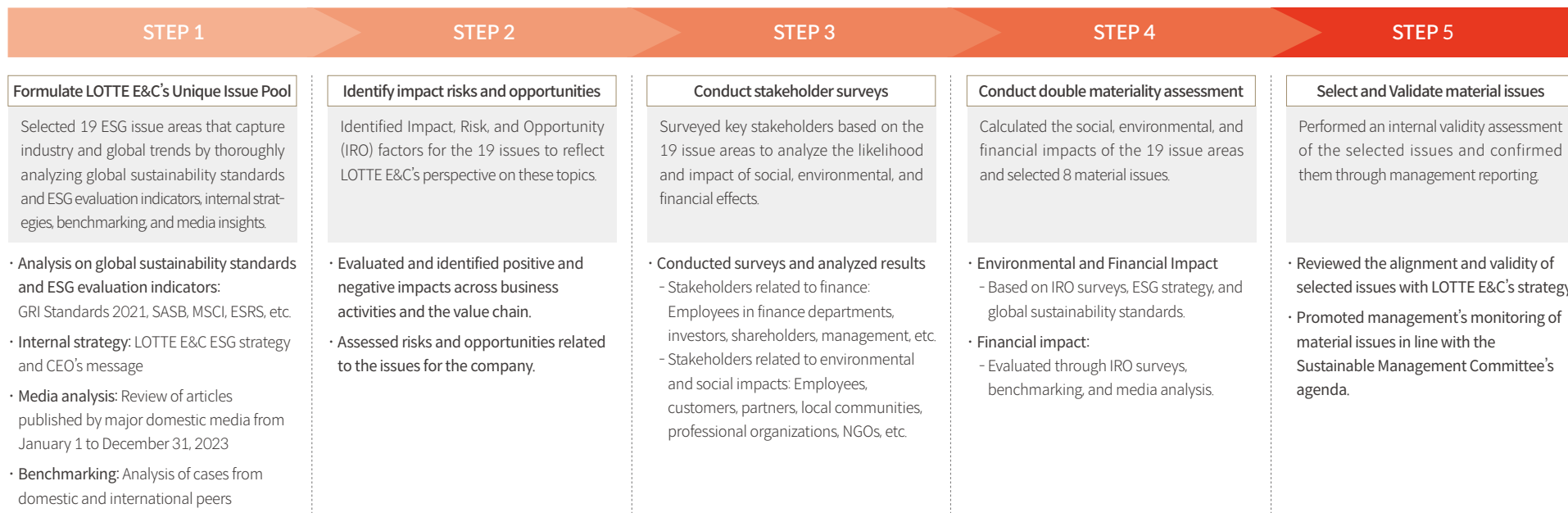
ASSESSMENT OVERVIEW

Each year, LOTTE E&C assesses the positive and negative impacts of sustainability-related issues to identify key focus areas. This involves soliciting feedback from key stakeholders both domestically and internationally. We incorporate the GRI Standards, a global benchmark for sustainability management, along with the double materiality concept from ESRS. This approach evaluates both the financial implications of risks on our business and the environmental and social impacts of our operations. In the 2023 double materiality assessment, “Employee Health and Safety” was reaffirmed as the top priority, as it was in the previous year. On top of that, “Green Building,” “Customer Satisfaction,” and “New Growth Engines” emerged as new material issues. LOTTE E&C is committed to enhancing stakeholder engagement by transparently disclosing our activities and performance related to these material issues. We aim to advance sustainability management by actively integrating these issues into our corporate strategies.

ASSESSMENT PROCESS

We identified our core material issues using a comprehensive five-step materiality assessment process. This process gathers diverse stakeholder perspectives and proactively identifies diversifying market and industry trends, helping us derive strategic issues essential for promoting sustainability management. The identified material issues are reported annually to the Sustainable Management Committee for review, ensuring they are systematically managed with consideration for their economic, environmental, and social impacts.

Material Issue Assessment Process



DOUBLE MATERIALITY ASSESSMENT

ASSESSMENT RESULTS

Out of a total of 19 issues, LOTTE E&C developed a material issue matrix that evaluates both financial and environmental/social impacts. From this matrix, we identified seven high-priority material issues and one additional internal management issue for implementing ESG strategy tasks this year, resulting in a total of eight core material issues.

Material Issue Matix



2024 LOTTE E&C Core Material Issues by Area and Rationale

Issue name			Ranking changes
S	Employee Health and Safety	Employee health and safety are crucial not only as corporate social responsibilities but also as key factors directly affecting productivity. We have determined that employee health and safety is not just an internal management issue, but a core issue that has a significant impact on corporate sustainability, as accidents can result in human and material losses and serious damage to corporate reputation. Consequently, we place a high priority on employee safety and security and promote proactive and continuous management to minimize risks.	-
E	Green Building	Green building addresses contemporary demands for sustainable development and climate change mitigation, while also enhancing corporate competitiveness and creating new market opportunities. LOTTE E&C aims to make green building a central driver of future growth by increasing R&D investments and pursuing technological innovations.	New
S	Customer Satisfaction	Customer satisfaction is essential for corporate sustainability. Poor quality control can lead to more than just temporary revenue losses; it can erode brand value and trust, affecting long-term growth. To mitigate these risks and align with our philosophy of being a "Lifetime Value Creator," LOTTE E&C will focus on enhancing quality competitiveness and building enduring relationships with customers.	New
G	Securing New Growth Engines	New growth engines are vital for LOTTE E&C's future growth and sustainability. By enhancing our building technologies and developing ESG-leading innovations, we aim to boost customer satisfaction, create environmental and social value, and improve business efficiency and profitability through digital innovation. We plan to leverage these potential opportunities to strengthen our competitiveness and generate new value.	New
E	Climate Change	LOTTE E&C doesn't see climate change merely as a potential risk but recognizes it as a critical and immediate risk we are currently facing and intends to proactively respond to it. By addressing climate change as a material issue, the Company aims to meet our environmental responsibilities, enhance corporate sustainability, and explore climate change response as a new business opportunity.	1 ↑
S	Shared Growth with Partners	The deteriorating conditions of our partners or inadequate safety and environmental management can negatively impact the entire supply chain and damage LOTTE E&C's financial stability and reputation. Therefore, we seek win-win cooperation with our partners and engage in activities to foster a healthy industrial ecosystem.	3 ↓
G	Ethics and Anti-Corruption	Ethical management extends beyond moral obligations and is crucial for sustainable growth. Unethical behavior or corruption involving employees and executives can severely damage our reputation and lead to legal and financial repercussions, jeopardizing business stability. LOTTE E&C treats ethics and anti-corruption as potential risks, aiming to prevent and minimize them in advance while establishing a robust ethics management system and promoting ethical awareness among employees.	5 ↓
S	Human Rights and Diversity	Human rights violations and discrimination can harm our corporate image and hinder our ability to attract and retain talented employees and enhance productivity. With the increasing presence of foreign workers in the construction industry, respecting human rights and fostering an inclusive culture have become essential. Recognizing human rights and diversity as potential risk factors, LOTTE E&C is committed to strengthening our human rights protection system and cultivating a corporate culture that values diversity.	3 ↓

STRATEGIC DIRECTION BY ESG AREA

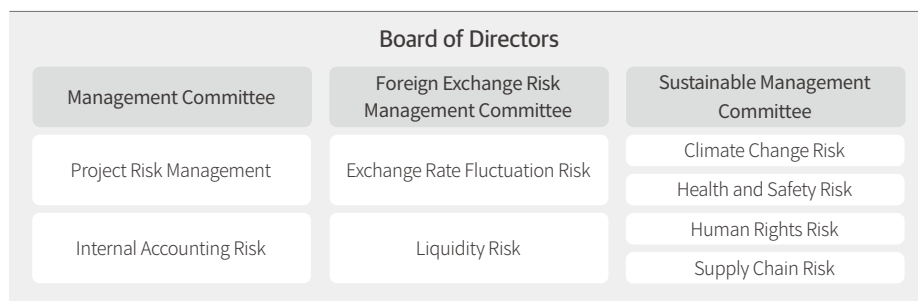
Each year, LOTTE E&C develops a core strategy for ESG management to promote sustainable practices by identifying material issues and analyzing key performance indicators. To achieve this, the Company has established eight strategic directions and are carrying out detailed activities across various subcouncil. To add to this, through the Sustainable Management Committee, we continuously review our company-wide strategy and execution system to ensure alignment with the global goals of the UN SDGs.

ESG Management Highlight for 2023					
Strategic Directions	Strategic Tasks	Key Performance Indicators	Key Performance in 2023	UN SDGs	Material Issues
Safeguard the global environment and secure new growth engines	<ul style="list-style-type: none"> Expand participation in eco-friendly certifications and programs Attain zero environmental accidents Delve into emerging business ventures in future markets Innovate and implement green technologies and practices 	<ul style="list-style-type: none"> Secure environmental management certification and verification Monitor sales of green products 	The investment in eco-friendly R&D increased by 47.47% (YoY)		Climate Change, Green Building, Securing New Growth Engines
Uphold health and safety standards to ensure a safe working environment without loss of life	<ul style="list-style-type: none"> Fortify health and safety governance Increase the safety investment budget Expand SMART health and safety technologies Refine health and safety education & training across all organizational levels 	<ul style="list-style-type: none"> Total Recordable Injury Rate (TRIR) Safety investment expenditures Employee health and safety education & training Health and safety risk management 	The number of employees completing health and safety training rose by 36.36% (YoY)		Employee Health and Safety
Pioneer shared growth by fair trade and mutual exchange	<ul style="list-style-type: none"> Cultivate and sustain fair trade partnerships Reinforce support mechanisms for partners Build trust with partners Develop and assess partner ESG evaluation systems 	<ul style="list-style-type: none"> Assess partners' ESG practices Identify partners' ESG risk factors Support shared growth with partners 	Number of partners conducting ESG management self-assessment by using checklist 21 companies	 	Shared Growth with Partners
Grow with the community and share love	<ul style="list-style-type: none"> Expand flagship initiatives for social contribution Design and implement beneficiary-focused projects Foster a culture of voluntary employee engagement Quantify and evaluate the outcomes of social contribution activities 	<ul style="list-style-type: none"> Monitor community engagement efforts Manage community investments and services Create community impact 	Social value generated from participation in the Plant a Seed Campaign for Carbon Reduction KRW thousand 30,521,970		-
Provide services that deliver the best value to customers	<ul style="list-style-type: none"> Uphold ethical and transparent marketing practices Reinforce product and service safety standards Strengthen customer information protection systems 	<ul style="list-style-type: none"> Protect and monitor customer information Adhere to laws and regulations regarding product information and labeling Comply with marketing communication laws and regulations 	Number of violations against marketing communication laws and regulations Zero for 3 consecutive years		Customer Satisfaction
Champion human rights and empower workers	<ul style="list-style-type: none"> Enhance human rights management awareness through ongoing Human Rights Management Survey Address risks based on Human Rights Impact Assessment Develop a global talent management ecosystem Implement an optional welfare system 	<ul style="list-style-type: none"> Monitor human rights risks Provide education and training on human rights 	Advance the human rights management system Formalized a Charters of Human Rights Management	  	Human Rights and Diversity
Become a company loved by all stakeholders	<ul style="list-style-type: none"> Internalize core ethical values Activate channels for stakeholder feedback collection Establish KPIs for socially responsible management 	<ul style="list-style-type: none"> Build and implement policies for social responsibility Disclose transparent information through publication of Sustainability Reports Monitor stakeholder communication channels 	To Sustainable Management Committee Reported the status of social responsibility management		-
Establish a world-class compliance system	<ul style="list-style-type: none"> Refine compliance frameworks for contracting and internal transactions Enhance employee awareness of compliance and ethical management 	<ul style="list-style-type: none"> Conduct anti-corruption impact assessments Comply with laws and regulation for ethical management 	Conducted additional assessments to identify corruption risks at the team level Sustained ISO 37001 certification		Ethics and Anti-Corruption

INTEGRATED RISK MANAGEMENT

RISK MANAGEMENT SYSTEM

LOTTE E&C takes a multifaceted approach to managing risks that directly or indirectly affect project-related company management. We identify financial and non-financial risks that may affect our business, with each department focusing on specific activities to mitigate these risks. Major non-financial risk issues are reported to the CEO through the Sustainable Management Committee and are centrally managed by the Sustainability Management Secretariat.



PROJECT RISK MANAGEMENT

LOTTE E&C assesses expected risks in advance when undertaking project investments to ensure investment stability and establish a cohesive coordination system. We promote rational decision-making and investment efficiency by means of comprehensive investment reviews, with projects proceeding only after being reported to and approved by the CEO. Additionally, we monitor factors impacting projects, clients, and business partners, managing project-specific risks at the headquarters level.

Project Investment Risk Management Process



INTERNAL ACCOUNTING RISK MANAGEMENT

LOTTE E&C evaluates the design and operational effectiveness of the internal accounting management system for each fiscal year. We check for weaknesses in accordance with the Best Practices for Internal Control over Financial Reporting and prepare a report on the evaluation of operating conditions as per Chapter 5 (Application to Small and Medium-sized Enterprises) of the Best Practices. No vulnerabilities were found as a result of the evaluation by the external auditor in 2023, and we are continuously striving to ensure transparency in our internal accounting management.

TAX RISK MANAGEMENT

LOTTE E&C recognizes taxation as a major source of national fiscal revenue and an essential resource for strengthening cooperation with stakeholders. With this in mind, we plan to disclose and manage our taxation policies by specifying a tax strategy and management system.

EXCHANGE RATE FLUCTUATION RISK MANAGEMENT

LOTTE E&C manages exchange rate fluctuation risks with the Exchange Risk Management Committee, comprising a chairman and three members. The committee convenes quarterly and may hold additional meetings as necessary.

LIQUIDITY RISK MANAGEMENT

LOTTE E&C maintains appropriate unused borrowing limits and continuously monitors liquidity forecasts to meet working capital needs. By doing so, the Company prevents violations of borrowing limits or covenants, considering financing plans, covenant compliance, internal financial ratios, currency restrictions, and external laws and regulations in our liquidity forecasting. To ensure sufficient liquidity, we invest surplus funds in financial products such as current account, time deposits, money market deposits, and marketable securities that offer appropriate maturity and ample liquidity.

INTEGRATED RISK MANAGEMENT

CLIMATE CHANGE RISK MANAGEMENT

In an effort to minimize climate change risks, LOTTE E&C identifies climate change issues that may arise throughout the entire project process and manages them with a structured process. In alignment with our “2040 Carbon Neutrality Roadmap,” the Company assesses GHG emission projections and develops measures to reduce them. These efforts are integrated into our comprehensive company-wide risk management system. We identify climate change risks and opportunities at various levels by country, region, business site, and organization, and present our findings to the C-level council for review. The Company also monitors and prioritizes key environmental indicators, such as GHG emissions, energy consumption, and waste production.

Related pages: p.32-39

HUMAN RIGHTS RISK MANAGEMENT

LOTTE E&C recognizes the significance of human rights management and conducts preventive activities to manage human rights risks. The Company performs an annual company-wide Human Rights Impact Assessment to identify potential risks across our operations. We also carry out Human Rights Management Survey to evaluate employees' awareness of human rights management and identify areas for improvement. To enhance our efforts in protecting the human rights of both employees and construction site workers, including our partners, we are expanding the scope of our Assessment to cover the entire value chain.

Related pages: p.52-57

SUPPLY CHAIN RISK MANAGEMENT

In an effort to build a sustainable supply chain, LOTTE E&C has developed a partner ESG self-assessment checklist and established a partner Code of Conduct to build and operate a process for supply chain ESG management. Since 2024, we have piloted ESG self-assessment for our partners to identify areas for improvement. To manage risks from supply chain, we are expanding our shared growth programs, which include providing financial support to outstanding partners and assisting businesses in local communities.

Related pages: p.58-66

ADDRESSING EMERGING RISKS

In response to the dynamic global landscape, the World Economic Forum releases the Global Risks Report every year to forecast and assess major risk factors that negatively affect the global economy, environment, and society. LOTTE E&C is proactively identifying and managing emerging risks that may not yet significantly impact the company but have the potential to become critical threats.

Near-term Risks

Decline in the Labor Force and Intensifying Aging Population

Related pages: p.51, p.86

LOTTE E&C is on the structural challenges facing the construction industry due to the aging population and shrinking labor force. These labor shortages can result in risks such as project delays, decreased quality, and rising labor costs, necessitating proactive measures. To address these risks, the Company is exploring the adoption of new technologies like AI to manage risks effectively. We also recognize the importance of safeguarding worker rights and welfare with technological advancements. Thus, we are continuously seeking ways to enhance the working environment through Labor-Management Council, aiming to create safe and humane working conditions, and will persist in our efforts to build a healthy work environment.

Spread of Cybercrime

Related pages: p.103-106

With the rise of sophisticated cybercrimes, such as privacy violations, data fraud, and theft linked to advances in AI technology, concerns about cybersecurity are growing. Since obtaining Information Security and Privacy Management System (ISMS-P) certification in 2017, LOTTE E&C has been safeguarding data, a vital asset and resource for the organization. In 2022, we expanded this certification to include privacy protection. We are also committed to thoroughly defending against cybercrime by continuously expanding our information security investments.

Long-term Risks

Regulatory Risk Diversification

Global regulation of non-financial risks, such as climate change and supply chain issues, is on the rise. Consequently, companies face an array of challenges, including heightened costs, restricted business opportunities, potential legal sanctions, and reputational damage. To proactively respond to these diversifying regulations, LOTTE E&C monitors global regulatory trends by different topic through subcouncils under the Sustainable Management Committee.

COMMUNICATION WITH STAKEHOLDERS

LOTTE E&C maintains comprehensive communication channels that encompass the entire value chain, including stakeholders with non-financial impacts for consultation and collaboration. By establishing strategic partnerships with stakeholders involved in sustainability management, both directly and indirectly, the Company proactively mitigates potential risks and actively incorporate their feedback to enhance our ESG management.

Employees

Stakeholders within an organization who are the subject of the company's activities and who directly influence and are affected by the company's performance.

Communication Direction

Promote win-win by protecting their rights and developing their capabilities and welfare

Related issues

Human resource development, welfare benefits, ethical management, human rights management, health and safety

Communication channels

Grievance channel, cyber newspaper, Junior Board, Safety Communication Center, YouTube channel

Shareholders and Investors

Stakeholders who provide financial capital to establish and implement business strategies.

Communication Direction

Share management performance using invested capital in a transparent manner

Related issues

Information disclosure, corporate governance

Communication channels

Website, Sustainability Report

Customers

End users of products and services

Communication Direction

Incorporate customer input into business strategy and enable communication channels.

Related issues

Customer satisfaction, information security

Communication channels

Homepage, YouTube channel
"OK LOTTE Castle", Sales Gallery,
Happy call service, CASTLing service.

Partners

Companies we partner with for mutual growth, such as those supplying raw materials for quality management and technical cooperation.

Communication Direction

Realize shared growth through win-win cooperation

Related issues

Health and safety, ethical management, human rights management, shared growth, fair trade

Communication channels

Regular meetings with partners, partner portal, ethic hotline, safety communication center

Local communities

All individuals or organizations that are affected economically, environmentally, and socially by our business activities

Communication Direction

Maintain channels to gather feedback and carry out social contribution activities that address the needs of local communities.

Related issues

Vibration, noise, fugitive dust, social contribution, biodiversity

Communication channels

Residents' briefing sessions, Charlotte Volunteer Group, social contribution programs, grievance channels, homepage

Government agencies

Agencies responsible for licensing, policy establishment, and legal and regulatory oversight for conducting business.

Communication Direction

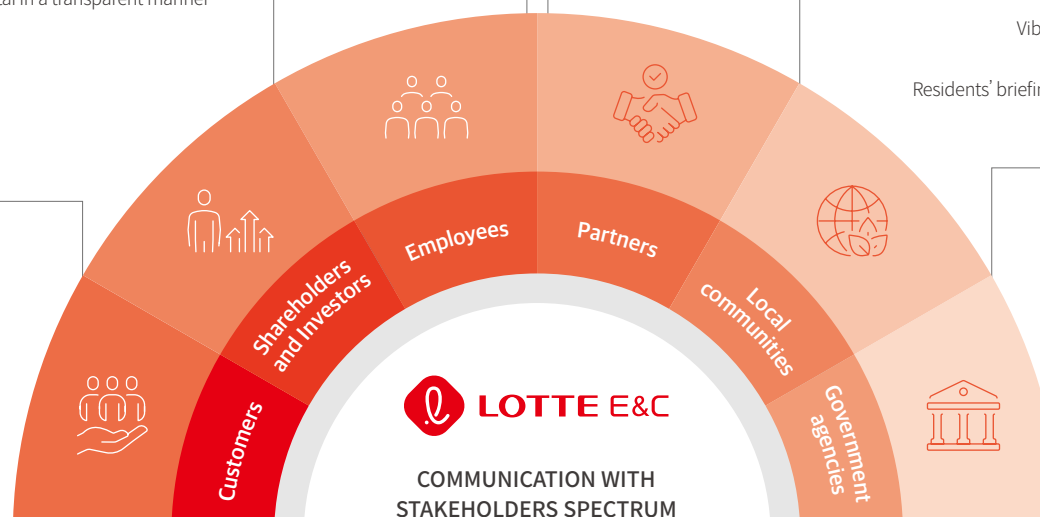
Risk management based on monitoring trends in laws and regulations related to the construction industry.

Related issues

Health and safety, waste, climate change, wastewater, ethical management

Communication channels

Agencies related to construction industry regulations



COMMUNICATION WITH STAKEHOLDERS

Stakeholders related to finance



ESG Management

Q1. How do you establish key performance indicators (KPIs) for ESG performance across departments, and what is your action plan to achieve them?

Related pages: p.32, p.40, p.52, p.58

A1. LOTTE E&C meticulously analyzes both quantitative and qualitative ESG indicators mandated by domestic and international standards and integrates them into our key performance metrics. Each department and subcouncil engages in ongoing dialogue, continuously seeking opportunities to enhance and refine the established performance metrics. Furthermore, the Sustainable Management Committee drives the ongoing evolution of our socially responsible management practices by making strategic decisions to continuously enhance performance. By utilizing this governance framework, the Company seamlessly aligns KPIs across both company-wide and departmental levels, ensuring an integrated approach to executing ESG management.

Shareholders and Investors



Reducing Environmental Impact

Q4. Do you have targeted plans and systems in place to reduce environmental impact of your business activities?

Related pages: p.32~39

A4. LOTTE E&C is actively advancing its strategies to reduce GHG emissions in alignment with the "2040 Carbon Neutrality Roadmap." The Company is fortifying its commitment to green building by pioneering eco-friendly technologies and materials. In 2023, we enhanced our group-wide environmental management capacities by offering expert guidance and advice on green remodeling and transitioning to renewable energy sources.

SETTING LOTTE E&C DIRECTION WITH STAKEHOLDERS

At LOTTE E&C, we are committed to listening to our stakeholders to drive the company's sustainable growth. We use a variety of channels, such as surveys, interviews, and forums, to gather feedback from diverse groups including customers, shareholders, partners, and local communities. The insights we collect are carefully reviewed and integrated into our long-term management strategies and key decision-making processes. We are dedicated to maintaining ongoing communication with our stakeholders, aiming to meet their diverse needs and expectations and to continually enhance our responsiveness and responsibility as a company.

Customers



Customer Satisfaction

Q2. What efforts are you making to provide optimal services to customers? What approaches do you believe are effective in enhancing LOTTE's brand value and achieving customer satisfaction?

Related pages: p.92

A2. Rooted in quality management, LOTTE E&C achieves customer satisfaction by integrating insights gathered from customer interactions into our products and services. We promptly address customer issues through our CASTLing service and elevate our brand value by engaging ESG initiatives with the community. We are also launching differentiated next-generation housing products, including EnterLounge and Ego-Space, to meet evolving consumer needs and trends.

Partners



Shared Growth with Partners

Q5. What steps are you taking to enhance communication and strengthen partnerships with your partners? How do you consistently share and address industry-wide issues within the construction sector?

Related pages: p.63

A5. Since 2024, LOTTE E&C has been piloting ESG self-assessments for our partners to support the creation of sustainable supply chains. Looking ahead, we plan to help our partners identify and implement improvements in their ESG practices and strengthen our relationships through regular, trust-building issue sharing.

Local communities



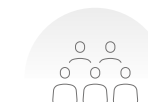
Community Engagement

Q3. What are the plans for using the technology in social contribution activities, particularly in areas like residential environments and urban regeneration? Are there any upcoming initiatives where you plan to make a significant impact on the local community?

Related pages: p.88~89

A3. Each year, LOTTE E&C offers clean and comfortable living spaces to low-income and vulnerable individuals facing inadequate housing conditions through our "Love House" program. In 2023, using the Charlotte Volunteer Group, we established a 1,983m² Green Farm eco-friendly vegetable garden in Gangseo-gu, Seoul. This initiative aimed to support vulnerable residents in recovering their psychological, social, and physical well-being while fostering community connections and building a supportive network. We are actively involved in social contribution initiatives leveraging our technology and are committed to fulfilling our corporate social responsibility by expanding our efforts to encompass urban regeneration projects.

Employees



Talent management

Q6. What initiatives are you undertaking to cultivate a corporate culture that resonates with Gen Z employees?

Related pages: p.85

A6. LOTTE E&C has nurtured a more vibrant corporate culture by promoting intergenerational dialogue through the "Stand Us" lecture series, presented by Gen Z employees, and understanding the values and trends of each generation. We remain committed to understanding and incorporating the evolving needs and changing trends of the new generation to create an innovative and progressive construction culture.



ESG IMPACT BOOK

LOTTE E&C generates sustainable value for both the company and society by devising concrete strategies and actionable plans for key issues.

RESPONSE TO CLIMATE CHANGE	32
OCCUPATIONAL HEALTH AND SAFETY	40
HUMAN RIGHTS MANAGEMENT	52
SHARED GROWTH WITH PARTNER COMPANIES	58

01

RESPONSE TO CLIMATE CHANGE

IFRS S2(TCFD) Report

OUR APPROACH

LOTTE E&C is preemptively addressing climate change in alignment with the evolving global landscape, including the mandatory IFRS S2 disclosure and the introduction of the carbon border tax. In line with this, the Company has established the "2040 Carbon Neutrality Roadmap" and is actively promoting eco-friendly technologies such as the construction of zero-energy buildings and the use of sustainable materials to achieve sustainable construction.



SOCIAL AND ENVIRONMENTAL IMPACT

Actual ●●●●●○

FINANCIAL IMPACT

Risk and Negative ●●●●○

Keyword Background

LOTTE E&C's Definition of Climate Change Response

Climate change presents significant threats to the environment and society, such as rising sea levels, extreme weather events, and disruptions to ecosystems. It also profoundly impacts business operations. Consequently, it demands active participation and action from companies, which are pivotal players in economic activities. LOTTE E&C embraces climate change response initiatives as a social responsibility essential for sustainable development, surpassing the mere fulfillment of regulations or cost reduction objectives.



GOVERNANCE

The C-Level council sets the company-wide direction for climate change response, while the Safety Environment Management Subcouncils ensure effective execution. Furthermore, we are enhancing responsible management by incorporating climate change response into the performance indicators of our executive directors.

STRATEGY

Conforming to the emissions trading system, LOTTE E&C conducted voluntary third-party verification of our Scope 1 and 2 emissions to review the accuracy and completeness of our data and identify areas for improvement. The Company also proactively estimated our Scope 3 emissions to identify potential risks and opportunities that could impact our business and to develop reduction strategies for our principal emission sources. We plan to broaden our management plan to incorporate the establishment of Scope 3 management goals and reduction initiatives in the future.

Risks and Opportunities

		Stakeholders
Risks	- Intensified GHG reduction efforts, driven by the inclusion of emissions trading systems and heightened global regulations, may lead to financial impacts such as increased investment costs and potential penalties.	Shareholders and Investors, governments, customers
	- Decreased demand for products and services with high carbon emissions could result in financial repercussions, affecting technology development.	
Opportunities	- Diversifying our business model through green projects can enhance the company's potential for new growth while simultaneously reducing our environmental footprint.	Shareholders and Investors, local communities

RISK MANAGEMENT

The Company operates a risk management system in compliance with ISO 14001 requirements and incorporates environmental indicators, such as GHG emissions and energy usage, as key management metrics within our company-wide risk management framework.

TARGETS & METRICS

Setting a 2040 Net-Zero Goal

By the year 2030 vs. the baseline year 2018

35% reduction

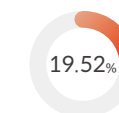


Target and Progress

GHG reduction rate in 2023 vs. the baseline year 2018

6.83%

Reduction in 2023 compared to 2030 reduction target



Key Performance indicators (KPIs)

Climate change scenario analysis	Managing climate-related risks and opportunities
Renewable energy generation and usage	Investment costs to meet emissions reduction targets

GOVERNANCE

SUSTAINABLE MANAGEMENT COMMITTEE

The Sustainable Management Committee of LOTTE E&C is a pivotal ESG decision-making body dedicated to advancing our sustainability agenda. Chaired by the CEO, the Council is responsible for shaping ESG strategies and policies, including those related to climate change. The Council reviews key climate change issues, develops strategies for climate change response, and periodically assesses our progress in GHG reduction to ensure that our targets are met. Significant climate-related issues are presented to the Board of Directors, and specialized subcouncils are established to develop and oversee our climate change response system, ensuring regular operational reviews. The Safety and Environment Subcouncil, in particular, plays a crucial role in promoting eco-friendly technologies and sustainable construction practices, striving to minimize GHG emissions through green solutions.

SUSTAINABILITY MANAGEMENT SECRETARIAT

The Sustainability Management Secretariat is tasked with executing sustainability management strategies and supporting the Sustainable Management Committee in its systematic roles. The Secretariat establishes mid- to long-term climate change strategies and facilitates cross-departmental communication and support for detailed implementation plans. It also oversees crucial ESG issues, including climate change, and reports to management, ensuring these are reviewed and deliberated at the C-Level Council. Additionally, the Secretariat collaborates with relevant departments to drive improvement initiatives and ensure integrated ESG management throughout the company. This includes ensuring compliance with environmental laws and regulations while addressing the needs of customers and ESG-related investors.

ROLE OF THE CEO

The CEO of LOTTE E&C holds ultimate responsibility for decision-making on ESG issues, including climate change, serving as Chairperson of the Board of Directors in line with Board regulations. To enhance clarity in climate change governance, the Company is conducting evaluations to define the roles and responsibilities of executives in ESG management. This aims to bolster their understanding and sense of accountability. We are also integrating non-financial metrics into our management performance evaluations to reinforce management's commitment to ESG. Moving forward, the Company will continue to strengthen our sustainability management capabilities by effective data and system management, sustainable procurement, and eco-friendly investments.

Climate Change-related Organizational Structure



STRATEGY

IDENTIFYING CLIMATE CHANGE RISKS AND OPPORTUNITIES

Based on IFRS S2 recommendations and TCFD guidelines, LOTTE E&C has identified 12 climate change-related risks and opportunities. In line with the draft KSSB Sustainability Disclosure Standard, which considers the business model and value realization as of 2023, the Company has qualitatively assessed the potential impacts of each risk and opportunity on our business, categorizing these impacts by their timing: short-term (within 1 year), medium-term (1-5 years), and long-term (beyond 5 years). Our assessment on climate-related risks and opportunities focused on business-related metrics such as water usage, waste management, and energy consumption. We conducted a qualitative analysis of how each risk and opportunity could affect our financials. Moving forward, we plan to quantify these impacts in terms of revenue, profit and loss, assets, liabilities, equity, and financing to calculate the financial impact.

Analyzing Climate Change-Related Risks and Opportunities

Category	Description	Occurrence			Response Strategy	Financial impact
		Short-term	Medium-term	Long-term		
Transition Risk	Policy and legal risks	Increased carbon price	●		• Adopt internal carbon pricing system	• Increased operating costs due to increased greenhouse gas emission costs
		Adoption of emission trading system	●		• Strengthen greenhouse gas response system • Performance management through third-party verification of GHG emissions	• Increased investment and operating costs due to the cost of purchasing emission credits • Penalties for not implementing greenhouse gas reduction activities
	Technology risk	Transition to low carbon technology	●	●	• Develop low carbon technology/method for use in existing Products and service	• Reduced demand for existing products and services and increased R&D costs from developing low carbon technologies
		Introduction of low carbon alternatives	●	●	• Purchase alternatives with low carbon emissions	• Increased construction costs due to utilization of low-carbon alternatives
	Market and Reputational risks	Change in stakeholder preference	●		• Identify stakeholders' needs using communication	• Decreased orders due to failure to identify stakeholders needs
		Increased energy and raw material prices	●		• Respond to volatility by conducting market analysis	• Increased production costs due to failure to respond to fluctuations in energy and raw material prices
Physical Risk	Acute	Negative perspective on carbon-intensive projects	●		• Win eco-friendly projects defined by K-Taxonomy	• Increased construction costs due to the development of green projects such as zero energy buildings, CCUS, fuel cells, etc. • Increased financing costs due to the implementation of multi-carbon projects
		Increased frequency and intensity of extreme weather events (typhoon, flood, wildfire, etc.)	●		• Establish early risk identification system and risk management system for climate change risk of each project	• Delays in construction period due to increased frequency and intensity of extreme weather events • Increased maintenance and repair costs due to extreme weather events
	Chronic	Rise of sea level and average global temperature		●		• Reduced revenue due to lower project demand as sea levels rise and global average temperatures increase
Opportunities	Product and service	Expansion of green project	●		• Shift to low carbon technology and use low carbon alternative	• Increased demand and revenue from green projects due to changing customer preferences for low-carbon products
	Energy sources (Water/Energy)	Development of low carbon and eco-friendly technology	●	●	• Improve energy and water efficiency by passive design and installation of high-efficiency equipment	• Reducing operating costs by applying low-carbon and eco-friendly technologies/processes to diversify water/energy sources
	Resource Efficiency	Advanced waste management to achieve Korea's NDCs	●	●	• Boost waste recycling and resource circulation activities	• Reducing waste disposal and environmental regulatory response costs by recycling waste

STRATEGY

CLIMATE CHANGE RESPONSE INVESTMENTS

LOTTE E&C recognizes the risks and opportunities that impact our business, such as the implementation of the Target Management System for achieving national GHG reduction goals and the “2040 Carbon Neutrality Roadmap,” and integrates them into our climate change response strategy. To address these climate-related risks and opportunities, the Company analyzes market conditions across business sectors and implements a range of strategies, including research and development, supply chain collaboration, and strategic business planning.

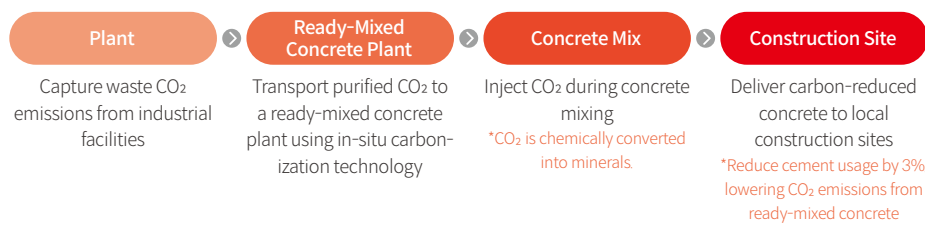
Analysis of Market Conditions for Climate Change Response by Business Unit

Housing	Architecture	Civil works	Plant
Increasing demand for low-carbon, eco-friendly living spaces	Growing need to adopt new technologies and enter new markets to address rapid changes, including stricter environmental regulations	Rising demand for forward-thinking initiatives, such as carbon-neutral and ESG-related upgrades to outdated facilities and businesses incorporating cutting-edge technologies	Acceleration of refineries' transition away from traditional refining processes and expansion of low-carbon and eco-friendly ventures by oil companies.

R&D Investments | In-Situ Carbonization Technology

According to the UN Framework Convention on Climate Change, approximately 8% of global carbon emissions come from cement-related businesses. Since 2021, LOTTE E&C has been developing in-situ carbonization technology to capture and purify carbon dioxide emitted from industrial facilities and inject it into the production of ready-mixed concrete. By using in-situ carbonization technology, cement usage will be reduced by approximately 3%. LOTTE E&C is actively advancing the domestic development and industrial application of carbonization technology as part of a national research project. In 2024, the Company plans to produce a 1m³ mixer with a CO₂ injection device and implement it in mock-up and construction sites.

Concept Diagram of CO₂ Capture and Injection into Ready-Mixed Concrete



Product & Service Development | Smart Farm Utilizing CO₂ Generated by Fuel Cells

Since 2021, LOTTE E&C has been participating in Renewable Energy Core Technology Development Project led by the Ministry of Trade, Industry, and Energy to develop a smart farm system for apartment buildings that captures and utilizes carbon dioxide (CO₂) generated by building fuel cells. Through the use of our research in the first and second years, we confirmed the effectiveness of reducing CO₂ emissions and promoting plant growth in smart farms using fuel cells. In the third year in 2023, we designed a vertical smart farm module for application in apartment communities and manufactured the initial product. Its performance will be verified by operation in conjunction with the carbon capture of building fuel cells. Looking ahead, we will lead in residential welfare and eco-friendly practices by exploring various ways to utilize building smart farms, such as operating user experience centers and developing maintenance platforms.

Supply Chain | Technology Collaboration through Support of Outstanding Startups

We are fostering innovative technology adoption and sustainable development by discovering eco-friendly construction technology startups. With our 2024 Open Innovation Program, we will select outstanding startups, offering them opportunities for collaboration with large corporations and market validation. We aim to explore business partnerships to foster mutual growth. By proactively securing a supply chain of green technologies, the Company will continue to increase its market share and solidify business opportunities.



Vertical Smart Farm Module Prototype



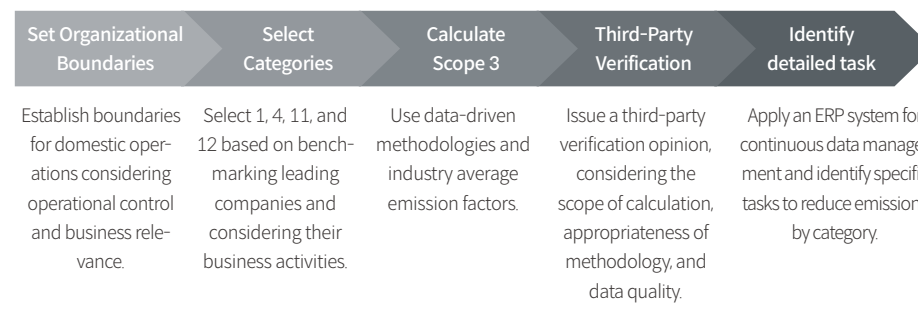
Signing of MOU for the Discovery and Development of Outstanding Startups

STRATEGY

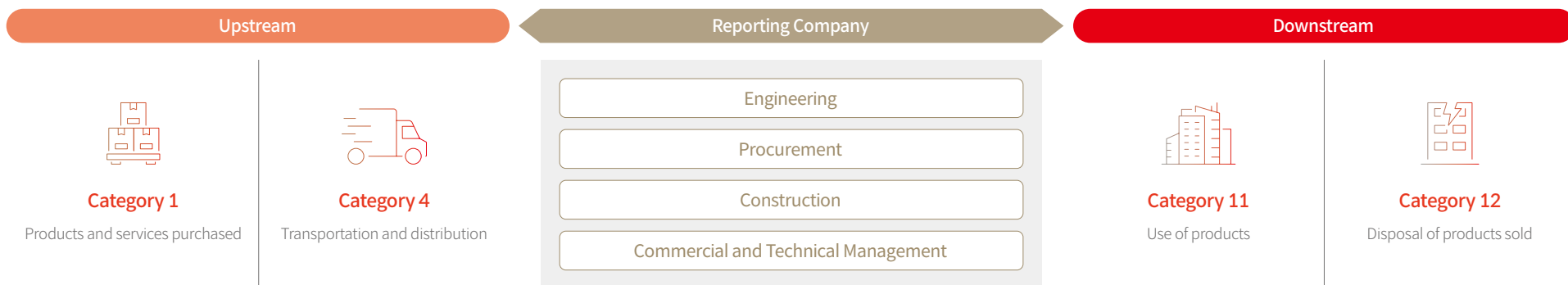
CALCULATING AND IMPLEMENTING SCOPE 3 EMISSIONS THROUGH CONSTRUCTION INDUSTRY VALUE CHAIN ANALYSIS

LOTTE E&C has calculated Scope 3 emissions to identify opportunities for energy efficiency and cost reduction across the entire construction value chain. This is part of our commitment to achieving carbon neutrality with continuous collaboration with our partners. The Company analyzed the value chain, considering industry characteristics and business activities, and selected four categories based on the GHG Protocol. The analysis showed that the emissions from “Category 1: Purchased Goods and Services” account for the largest portion among Scope 3 emissions, approximately 53.86%. LOTTE E&C will transparently disclose its carbon emissions across its business activities by expanding the scope of management to include Scope 1 and 2 emissions from business sites owned, operated and managed by the Company, as well as Scope 3 emissions from our upstream partners and downstream distribution networks.

Scope 3 Calculation Process



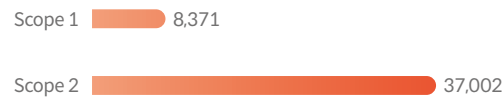
Value Chain Analysis and GHG Reporting Scope for the Construction Industry



GHG Scope 3 Emissions in 2023 (Unit: tCO₂eq)



GHG Scope 1+2 Emissions in 2023 (Unit: tCO₂eq)



GHG Scope 3 Emissions in 2023 (Unit: tCO₂eq)



RISK MANAGEMENT

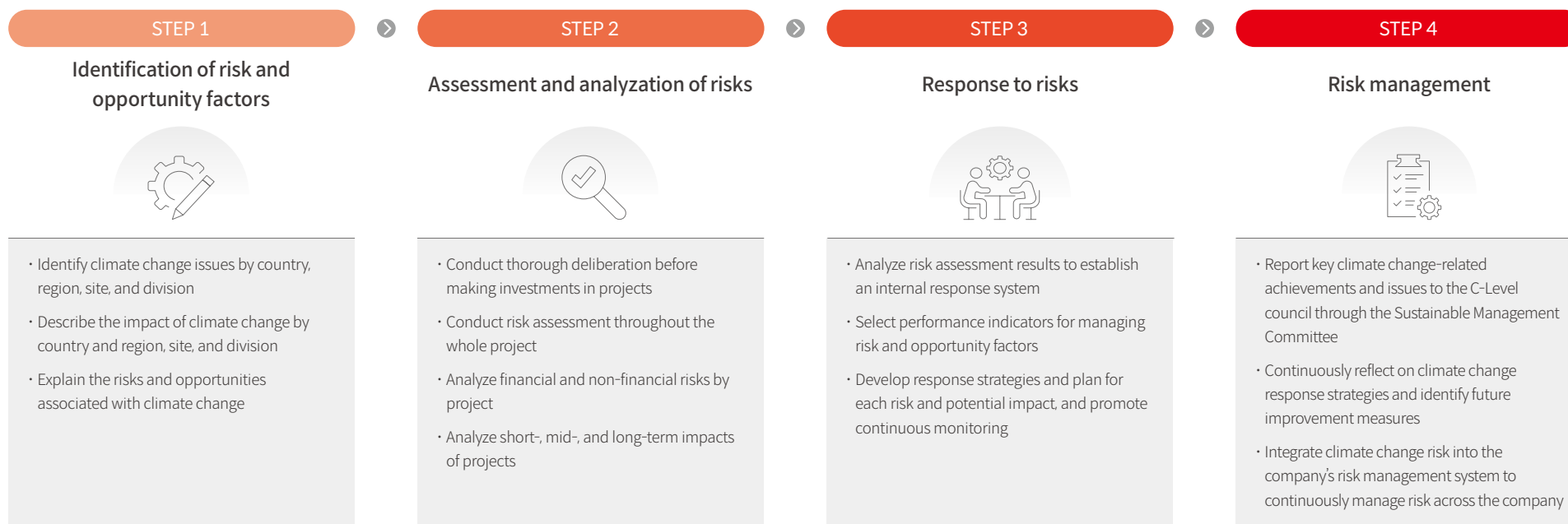
ESTABLISHING A CLIMATE CHANGE RISK MANAGEMENT PROCESS

LOTTE E&C has instituted a comprehensive risk management process to identify and minimize climate change issues that may arise throughout the entire project lifecycle. Climate change risks and opportunities, identified by project country, region, business site, and organization, are meticulously reviewed from the pre-investment and execution stages. We endeavor to manage these challenges at an enterprise-wide level by deliberations by the C-Level Council. To achieve this, the Sustainability Management Secretariat diligently identifies risks, evaluates their priorities, and reports on key environmental indicators related to climate change, including GHG emissions, energy usage, and waste emissions.

INTEGRATING CLIMATE CHANGE RISK INTO COMPANY RISK MANAGEMENT

LOTTE E&C recognizes the profound impact of climate change on our entire project process, dedicating to incorporating climate change considerations into its corporate management strategy. In alignment with our “2040 Carbon Neutrality Roadmap,” we conduct annual analyses of GHG emission forecasts, review emission reduction measures, and integrate these findings into our company-wide risk management system for continuous monitoring. Identifying climate change as a critical material issue for the company, we consistently monitor the status of climate change risk management and report our findings to the CEO by utilizing the Sustainable Management Committee. The Company will continue to systematically identify and manage potential risks and opportunities that may arise from climate change by organically linking and integrating our risk management systems.

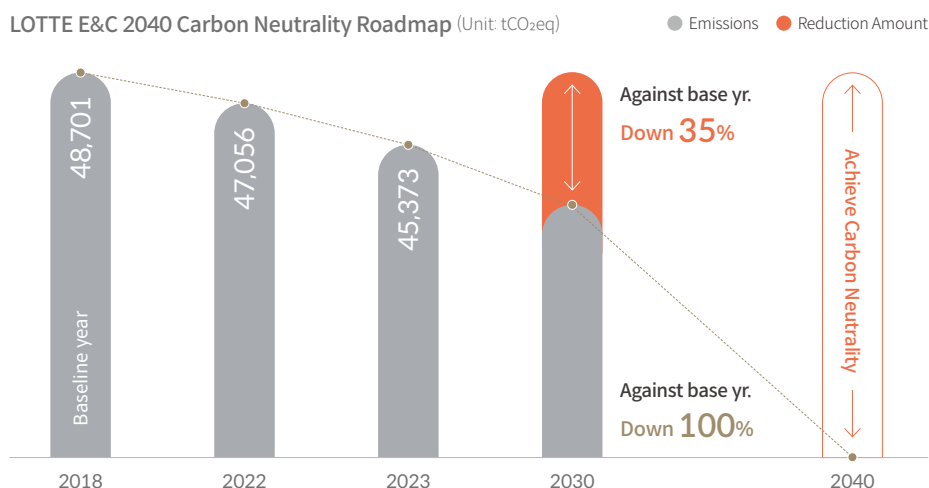
Risk Management Process



METRICS & TARGETS

2040 CARBON NEUTRALITY ROADMAP

LOTTE E&C has established the “2040 Carbon Neutrality Roadmap,” identifying key performance indicators such as renewable energy generation and consumption, as well as investment costs to achieve our reduction targets. With 2018 as the base year, the Company is committed to reducing carbon emissions through initiatives like installing solar panels and transitioning to eco-friendly vehicles.



LINKING CLIMATE CHANGE MANAGEMENT WITH KPIS

To tackle climate change risks and undertake green initiatives, the Company is aligning key environmental metrics such as GHG emissions and energy consumption with our KPIs. Since 2023, we have started managing sustainable project performance based on the K-Taxonomy, using this framework to monitor the progress of our green projects. LOTTE E&C is dedicated to proactively supporting the transition to a carbon-neutral society and achieving our own reduction targets by expanding our involvement in low-carbon projects, with the goal of becoming carbon neutral by 2040.

Key Performance Indicators

Carbon emissions target reductions

Investment costs to meet emissions reduction targets

GREENHOUSE GAS REDUCTION INITIATIVES

In our commitment to supporting national GHG reduction targets, LOTTE E&C voluntarily measures and manages our GHG emissions. Since 2019, we have been reducing energy consumption by transitioning from lignite to kerosene for concrete curing fuel and replacing conventional lighting with high-efficiency LED lights. We are advancing our carbon neutrality goals by transitioning to eco-friendly vehicles, improving the insulation performance of temporary site offices, and enhancing energy efficiency by renewable energy generation. LOTTE E&C remains dedicated to reducing our GHG emissions by over 35% by 2030 compared to 2018 levels and achieving carbon neutrality by 2040. We will continue to lead and innovate in our efforts to minimize our environmental impact.

Reduction in Usage by Replacing Concrete Curing Fuel

(Unit: TJ)

Category	2021	2022	2023
Scope 1 Reduction Amount	42.88	15.10	20.15
Calculation Method	(Energy consumption of lignite for concrete curing in the base year per month) - (Energy consumption of kerosene for concrete curing in the current year per month ¹⁾)		

Reduction in Energy Consumption by Replacing LED Lighting in Headquarters Building

(Unit: TJ)

Category	2021	2022	2023
Scope 2 Reduction Amount	3.16	2.84	4.66
Calculation Method	(Monthly electricity usage of the headquarters building in base year) - (Monthly electricity usage of the headquarters building in the current year)		

1) Calculated national coefficients for each fuel type (based on gross calorific value, HHV)

IMPACT STORY

Key Achievements and Plans in 2023

2023 Green Remodeling Activity Achievements

- Established energy efficiency improvement strategies and identified outdated buildings within Group companies
- Analyzed greenhouse gas emission data for Group company buildings



Carbon Neutrality Implementation Achievements

- Identified major emission sources through Scope 3 calculations
- Enhanced GHG category management by developing the “Scope 3 Calculation Standard Definition”



Carbon Neutrality Implementation Goals

- Conduct continuous data management via ERP System
- Expand Scope 3 calculation boundaries

CONTRIBUTING TO THE EXPANSION OF RENEWABLE ENERGY ACROSS GROUP COMPANIES

In 2023, LOTTE E&C supported the first phase of the “Eco-Friendly Promotion Team” initiative, a collaboration with 15 group companies. Our contributions included electricity profile analysis and advisory services for the introduction of solar PPA (Power Purchase Agreement¹⁾). We tailored optimal PPA options to the power consumption patterns of our affiliates, enhancing profitability and competitiveness through meticulous reviews and EPC cost reductions during PPA agreements with power generators. In 2024, we will continue our active participation in the Eco-Friendly Promotion Team, further contributing to the expansion of renewable energy across our group companies.

1) Power Purchase Agreement: A long-term contract for power transactions between a company and a power producer.

GREEN REMODELING CONSULTING FOR GROUP COMPANIES

LOTTE E&C has proposed phased energy efficiency improvement plans and suggested a process for identifying and diagnosing buildings for remodeling within the Group companies. We targeted buildings with high GHG emissions per square meter and those constructed many years ago, analyzing their emissions data to suggest utilization strategies. The Company also proposed establishing a group-wide Green Remodeling system, including benchmarking GHG emissions data for various building groups. Based on our achievements in 2023, we will continue identifying buildings for green remodeling within the Group and providing consulting services. To add to this, we plan to refine the use of GHG emissions data by integrating AI and big data analytics.

2024 Objectives

Identify and consult on green remodeling projects for Group buildings

Identify buildings within the Group for green remodeling continuously

Propose an energy assessment process for aging buildings within the Group



ENHANCING SCOPE 3 DATA MANAGEMENT

LOTTE E&C has developed the “Scope 3 Calculation Standard Definition” to ensure regular monitoring and enhance the accuracy of Scope 3 emissions data. This definition outlines the scope and methodologies for each category based on the GHG Protocol, increasing data consistency and providing stakeholders with precise information. We aim to gradually refine the data assumptions and methodologies. Using this Definition, LOTTE E&C is committed to continuously improving data quality and advancing our Scope 3 emissions management strategy. We plan to integrate our ERP system with Scope 3 emissions data to systematically manage the data, minimizing errors and omissions during data collection. In conjunction with that, the Company will expand the Scope 3 categories to comprehensively manage carbon emissions from all business activities, formulating concrete strategies to achieve our carbon neutrality goals.

02 OCCUPATIONAL HEALTH AND SAFETY

OUR APPROACH

LOTTE E&C is committed to achieving zero fall fatalities at construction sites with the mission of “providing a safe working environment without loss of life by upholding health and safety obligations.” We will make our utmost effort to enhance health and safety awareness among all construction workers, including employees and partners, to ensure effective on-site safety management.



SOCIAL AND ENVIRONMENTAL IMPACT

Actual ●●●●●

FINANCIAL IMPACT

Risk and Negative ●●●●●

Keyword Background

LOTTE E&C's definition of occupational health and safety

Although the number of accidents in the construction industry decreased by 9.5% last year compared to the previous year, it still remains relatively high compared to other sectors. LOTTE E&C is dedicated to exceeding mere compliance with occupational health and safety regulations. We intend to continually enhance our practices to build a safe and healthy workplace, where the protection of our workers' lives and safety is a fundamental value that drives the sustainable growth of our company.



GOVERNANCE

We have elevated our Health and Safety Management Office to become the Health and Safety Management Headquarters and now hold the Health and Safety Executive Council, led by the Chief Safety Officer (CSO), on a quarterly basis. Our ongoing health and safety policy remains site-centered, emphasizing practical and effective health and safety activities.

RISK MANAGEMENT

We have implemented a health and safety system based on KOSHA-MS and ISO 45001 certification to create a safe workplace. Furthermore, in the event of an accident, the Company conducts thorough root cause analyses to establish measures to prevent recurrence, thereby preventing similar incidents through risk assessments. By utilizing a risk assessment program that integrates big data technology with an integrated risk index and artificial intelligence(AI), we can quickly and accurately identify risk factors on construction projects and operate a monitoring system that allows for preemptive control.

TARGETS & METRICS

Occupational Health and Safety Management Goals for 2023

Accident death rate by preventing six major types of accidental disasters

ZERO



KPI Performance in 2023

Employee Total Records
Total Recordable Injury Rate
(TRIR)

0%

YoY increase in safety
investment costs

27%

STRATEGY

To address falls, the most common type of accident, we manage a Situation Room for Safety that enables real-time monitoring. As a result, we have successfully prevented 249 fall accidents in advance, fostered a culture of health and safety by using targeted job-specific health and safety education, and advanced our fall accident prevention management system.

Risks and Opportunities

Risks and Opportunities		Stakeholders
Risks	- Safety incidents in the construction site impact everyone, including employees and partners, and can lead to productivity loss and damage to the company's reputation.	Employees, partners, shareholders and investors
	- Violations of health and safety laws and regulations can have serious financial consequences, including fines, operational suspensions, and other penalties.	
Opportunities	- Creating a safe working environment reduces accidents and increases operational efficiency, which in turn enhances employee satisfaction and performance. This positive impact extends to the company's productivity and quality improvements.	Employees, partners and customers

GOVERNANCE

HEALTH AND SAFETY HEADQUARTERS

To eliminate safety accidents, LOTTE E&C reorganized its Health and Safety Management System in November 2023, elevating the Health and Safety Management Office to the Health and Safety Headquarters. Considering the organizational capabilities and job competencies of the Headquarters, the Company has enhanced its execution capabilities to ensure that planning, inspection, and training are integrated and effectively managed. To comply with the Serious Accidents Punishment Act and improve safety accident prevention, we have appointed a Chief Safety Officer (CSO) who is authorized to make swift decisions regarding health and safety, including those related to personnel and budget, thereby strengthening management. Additionally, we have set up safety teams directly under the head of each business division to proactively address potential safety issues on-site. The Health and Safety Headquarters updates the Board of Directors annually on its health and safety plans and performance. It also provides monthly reports on the status of health and safety management system implementation to the CEO and executives through regular health and safety management meetings.

EXPANDING HEALTH AND SAFETY BUDGET

In 2023, the Board of Directors approved an increase in the health and safety budget, allowing the headquarters to directly allocate funds for safety management activities on site. The Company is separately managing the budget for supporting sites with insufficient safety funds and for the application of smart technologies. In the future, we plan to further expand the budget to enhance disaster prevention activities and increase investment in health and safety initiatives.

Health and Safety Management Budget

YoY Change Rate

27% ↑



Health and Safety Organizational Structure



Key Activities of the Health and Safety Execution Organization

Team name	Main activity	Detailed activity
Health and Safety Operations Team	Planning and Budgeting	Manage performance indicators and budget allocations, introduce and oversee smart safety management technologies.
	Managing infrastructure	Oversee health and safety managers and enhance job competency through infrastructure improvements.
	Operating a system	Run Health and Safety Management System to prevent serious accidents and operate programs to improve the safety levels of partner organizations.
	Developing health activities	Develop and distribute company-wide health management guides and manuals.
Safety Prevention and Assessment Team	Prevention and Diagnosis	Develop and implement construction sites health and safety inspection plans.
	Accident investigation	Analyze risk and come up with measures to prevent recurrence.
	Equipment inspections	Analyze and inspect equipment accidents to prevent equipment safety accidents.
Training and Education Team	Advancing Education and Training	Train specialized health and safety personnel.
Safety Support Unit	Providing customized safety support services at on-site locations.	Address gaps in safety management and offer on-site training for high-risk operations and provide on-site training for high-risk operations.
Situation Room for Safety	Supporting real-time safety monitoring and activating communication protocols.	Direct corrective actions for hazardous conditions via phone, verify improvements, and gather feedback from workers.

GOVERNANCE

DELINEATING HEALTH AND SAFETY MANAGEMENT ACTIVITIES

To effectively internalize safety management across the entire company, we have delineated health and safety management activities into specific categories focused on both management and site-level operations. Each activity is organized based on its participants and frequency, according to its primary objectives and agenda.

LOTTE E&C's Health and Safety Management Activities

Category	Health and Safety Executive Council	Health and Safety Management Meeting	Occupational Health and Safety Committee
Attendees	Chief Safety Officer (CSO), safety officers from each business unit, and executives responsible for departments	CEO and management	Workers and employers (in equal numbers)
Frequency	Quarterly	Monthly	Quarterly
Purpose and Main Agenda	<ul style="list-style-type: none"> Review and make decisions on health and safety organization, manpower, budget, and system operation. Support safety accident prevention activities needed for the workplace by gathering feedback from headquarters and field workers. 	<ul style="list-style-type: none"> Report employee feedback on health and safety, company-wide health and safety management performance, and future plan to the CEO and management. Continuously identify and implement measures to improve health and safety. 	<ul style="list-style-type: none"> Deliberate on or resolve matters related to health and safety in accordance with Article 24 of the Occupational Health and Safety Act.

Top Agenda and Improvement Actions of Occupational Health and Safety Committee in 2023

- 1 Appointed new members or changed new ones for the Committee
- 2 Established occupational accident prevention plans at workplaces
- 3 Matters related to recording and maintaining statistics on occupational accidents
- 4 Updated and revised health and safety management regulations

Examples of Improvement Actions in 2023

Discovered asphyxiation-related risks associated with increased floor area in the underground parking lot in the event of a fire.



Additionally Installed an extra emergency exits and evacuation guidance systems.



HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATION

LOTTE E&C prioritizes health and safety management in all our operations, aiming to create a work environment free from life-threatening incidents through continuous investment in health and safety. The Company rigorously implements its health and safety policies and makes related regulations available on its website. Our health and safety policy applies to all employees, as well as all workers and partners who enter our workplaces for business purposes, in accordance with the Health and Safety Management Regulations. Furthermore, to achieve “ZERO fall fatalities,” we are revamping our health and safety management system and expanding the safety investment budget to ensure 100% execution. We are making our utmost effort to prevent serious accidents by actively expanding SMART health and safety technologies, including the implementation of ABCI¹⁾. To ensure high standards in health and safety activities, we integrate health and safety management indicators into our key performance indicators (KPIs) and Balanced Scorecard (BSC)²⁾ evaluations. We maintain our certifications through annual audits of KOSHA-MS and ISO 45001.

LOTTE E&C Health and Safety Management Policy



KOSHA-MS certification

ISO 45001 certification

- 1) Ai, Big Data, Cloud, IoT
- 2) Balanced Score Card: A system that manages performance through KPIs derived from financial, customer, internal process, and learning and growth perspectives to achieve the organization's vision and strategic goals.

STRATEGY

HEALTH AND SAFETY MANAGEMENT SYSTEM



1) Disasters caused by falling, bumping, pinching, fire, wind damage, and electric shock

STRATEGY 1 STRENGTHENING THE HEALTH AND SAFETY MANAGEMENT SYSTEM

Acknowledging that workers play a crucial role in safety management, LOTTE E&C has set up various channels to gather their feedback. This ensures smooth communication and cooperation between managers and workers to eliminate unsafe work practices. The Company supports practical, workplace-centered safety and security activities, and enhances the execution of work safety measures.

Organizations for Receiving Opinions from Health and Safety Workers

On-site	Health and Safety Committee	[Monthly] Monthly meeting of contractors and recipients to receive health and safety suggestions or improvements
	Occupational Health and Safety Committee	[Quarterly] Quarterly meeting of employers and workers to receive improvement measures to maintain and promote worker health and safety
	Safety Communication Center	[Timely] Receive on-site risk reports and safety suggestions via telephone and website on a real-time basis
	Health and Safety Management Meetings	[Monthly] Report the results of opinions collected from workers to the CEO and management every month and share them with all employees
Head office	Safety Communication Day	[Monthly] Conduct monthly health and safety meetings held by the CEO and management on site
	Local Council	[Quarterly] Share system improvements and near miss cases through quarterly health and safety meetings for stakeholder

Safety Communication Day

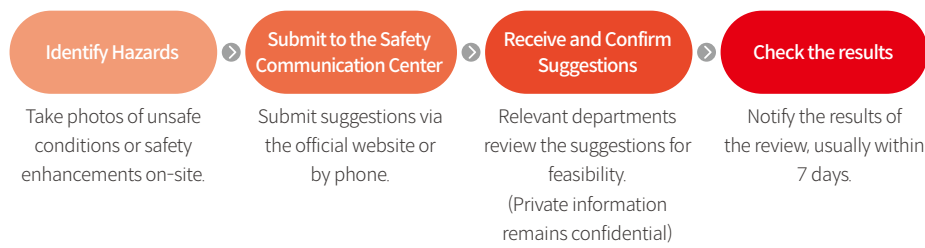
At LOTTE E&C, we host Safety Communication Days at least once a month, spearheaded by the CEO, to foster a company-wide safety culture and bridge communication between our headquarters and field operations. During these events, the Company conducts thorough inspections of high-risk construction projects and equipment work areas. We assess the condition of equipment installation, adherence to basic safety protocols, and the implementation of accident prevention measures. Alongside this, we provide training to heighten awareness of serious accidents and overall safety consciousness. Furthermore, LOTTE E&C dedicates time to listen to the challenges and opinions of our field employees. Through this open dialogue, the Company develops action plans for improvement ensuring that communication leads to tangible improvements in our safety practices.

STRATEGY

Operating Safety Communication Center

LOTTE E&C operates a Safety Communication Center to facilitate the easy reporting of safety risks and health improvement suggestions by all employees. Through telephone and our official website, the Company collects proposals, rewarding outstanding suggestions on a monthly or semi-annual basis to encourage active participation from our staff. In addition, the Center serves as a crucial channel for protecting workers from unreasonable treatment in accordance with health and safety management regulations. Workers can stop work and evacuate if there is a risk of industrial accidents, and employers cannot treat them unreasonably. To protect workers, we monitor them together with the Safety Communication Center and the Cyber Ombudsman.

Process for Reporting Safety Hazards and Health and Safety



Engaging and Communicating for a Culture of Workers' Health and Safety

Zero Accident 365+	Activities for all site personnel, including business owners, supervisors, and workers, to achieve the target number of accident-free days
Behavior-based Safety Management (BBS) Rewarding System	A system to induce safety behavior by observing and discovering active safety behaviors of workers and recognizing and rewarding safety activities
Excellent Health and Safety Leader Reward	A system to identify and reward managers of active partner companies that conduct excellent health and safety activities
Preventive Activities for Safety Accidents	A system to identify and reward construction teams with excellent implementation rates of safety accident prevention activities for high-risk tasks
Rewards for Best-Practices for Health and Safety Management	A rewarding system to discover and reward best practices to motivate voluntary health and safety activities on site

STRATEGY 2 ESTABLISHING AND IMPLEMENTING STANDARDIZATION

Classifying Risk Assessments

To effectively diagnose and mitigate occupational hazards and risks, LOTTE E&C categorizes risk assessments into initial, regular, and occasional assessments. Additional hazards and risks are identified by TBM¹⁾ activities, safety inspections, and employee feedback, and provide updates on the implementation. The effectiveness of the risk assessment process is validated through semi-annual self-assessments and internal audits. We continuously monitor the process by incorporating it into our health and safety policy development and goal-setting.

LOTTE E&C Risk Assessment

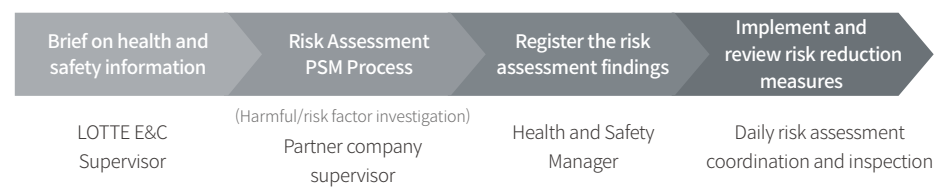
Initial assessment	Conducted for all work within one year from the commencement date.
Regular assessment	Performed annually after the initial assessment
Occasional assessment	Conducted before starting (or resuming) specific tasks, with monthly and daily risk assessments.

1) Tool Box Meeting: A proactive discussion led by a supervisor where workers review work content and safety activities, ensuring everyone is aligned and informed about safety measures.

Operating PSM for Risk Assessment with Worker Participation

LOTTE E&C engages workers in safety culture and communication through our Pre-Safety Meetings (PSM). These meetings are designed to identify on-site risks from the workers' perspective, helping to prevent accidents. Workers participate in risk assessments by contributing their experience to complete hazard and risk factor checklists, ensuring that risks are accurately identified from the perspective of the site situation and workers. By leveraging insights gained from PSM, LOTTE E&C establishes and implements effective accident prevention measures.

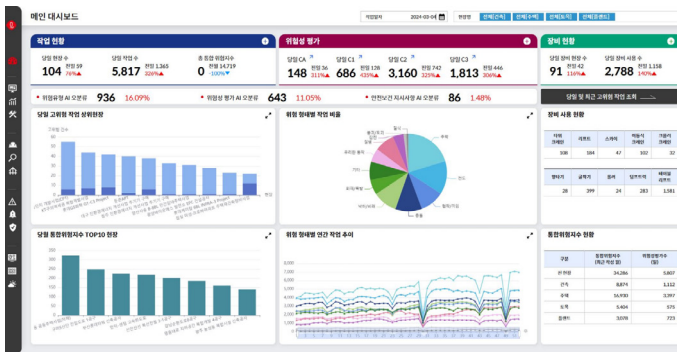
Risk Assessment PSM Process



STRATEGY

Managing Integrated Risk Index

LOTTE E&C has introduced an integrated risk index system that leverages big data to quantitatively assess risk levels across all sites on the same basis. This system enables us to effectively manage risk factors that vary by site conditions. The Company classifies risk management items into 70 distinct categories by site. Each month, we identify high-risk sites using the data required for risk calculations and allocate human resources and an optimal budget accordingly. Utilizing big data from 90,000 cases annually, the Company forecasts changes in risk factors such as progress rates and construction volumes. This data serves as a foundation for developing systems and policies.



Status of the Integrated Risk Index within the Risk Assessment AI program

Applying Smart Health and Safety Technology

LOTTE E&C is enhancing its smart safety management capabilities by leveraging Digital Twin (DT) technology. In a virtual space, any situation can be simulated and the outcome can be predicted. Given this, we have implemented an AI collision prevention system for construction equipment, which uses human body detection AI technology to prevent pedestrian collisions and narrow passage accidents. Additionally, the Company has established a range of smart safety management infrastructures. These include recording work videos and conducting safety inspections via wearable cameras, installing mobile CCTVs in high-risk areas and linking them with web/mobile platforms, and using smart protective gear equipped with IoT technology. LOTTE E&C intends to maintain workplace safety with the use of advanced technologies and continuous investment.

Strengthening Job-Specific Health and Safety Education & Training System

LOTTE E&C offers a range of tailored training programs designed to enhance health and safety awareness among all employees, including executives, staff, partners, and safety personnel, and to bolster their safety management skills according to their job functions. Notably, our safety experience training for the CEO and senior executives highlights our unwavering commitment to a safety-first management approach. By directly experiencing safety incident scenarios, our executives can elevate their safety awareness and lead efforts to prevent major accidents. We have further enhanced safety competencies through job-specific health and safety education initiatives, such as in-depth training for junior staff, development of an onboarding guidebook, mandatory health and safety education courses and required safety experience training for partner companies. We also emphasize practical, worker-focused health and safety education, including on-site training and multilingual instructional materials. LOTTE E&C remains dedicated to embedding safety awareness throughout the organization and strives to become a leader in developing a robust safety culture.

Job-Specific Health and Safety Education & Training

Management Safety experience E&T	New Supervisors Statuary & mandatory training/ Headquarters' own E&T	Partner Company Management Safety experience E&T (Mandatory)
Construction Equipment Specialists Construction equipment specialist E&T (8 weeks)	Site Managers, Supervisors, and Health and Safety Managers Onboarding guidebook	
Junior Staff In-depth E&T on health and safety	Workers On-site health and safety E&T	

Health and Safety E&T Management Plan

Intensive thinking education Why? How?	Interactive education Activities + Problem-solving	Connected education Basic → Advanced
E&T Goals <ul style="list-style-type: none"> The role of the lecturer and the content of the lecture only provide guidance, as for the employees manage the overall training Education focused on enhancing effective on-site application Invite professional lecturers (parallel with in-house lecturers) 		
E&T Outcomes in 2023		
Total 22 courses with 6,170 participants ¹⁾		

1) For executives, site managers, supervisors, health and safety personnel, and partners

STRATEGY

STRATEGY 3 SIMPLIFYING HEALTH AND SAFETY MANAGEMENT

LOTTE E&C is enhancing safety competence and awareness through engaging, easy-to-understand content, moving away from old-fashioned and tedious training methods. This approach helps integrate safety culture seamlessly into employees' daily routines. By making health and safety information more accessible, the Company will encourage all employees to voluntarily adopt safety practices and embed them into our corporate culture.

Creating Essential Safety Rules for Workers

We use a variety of educational materials to boost workers' health and safety awareness and prevent accidents. Our content includes cartoons and animations that are both intuitive and easy to understand, promoting repeated learning. In particular, the Company has categorized 61 essential safety rules into 10 themes such as general safety, equipment handling, civil engineering, framing, exterior finishing, and electrical work, and presented them through animated videos and short cartoons, translated into six different languages. Moving forward, we aim to broaden the reach of this content by incorporating languages such as Uzbek, Kazakh, and Sri Lanka. This expansion will ensure that workers from a wide array of backgrounds can access essential safety information without language barriers. The relevant content is utilized for on-site inquiries, onboarding of new workers training, and monthly refresher courses. It is strategically placed in safety inquiry areas and break rooms to ensure that workers can easily access and make use of it in their daily routines.



Safety Rules Cartoon

Motion Graphic Training Material

Daily Education and Training for Health and Safety

To continuously bolster employees' safety skills and heighten their awareness, LOTTE E&C provides a diverse range of educational materials on the company website on a daily basis. Our content includes intuitive and engaging formats such as safety encyclopedias, animations, short videos, cartoons, and a collection of exemplary safety management practices presented as news card. This approach ensures that safety information is effectively communicated even in a short time. The Company is committed to continually develop and expand these educational resources to further enhance its employees' safety awareness.



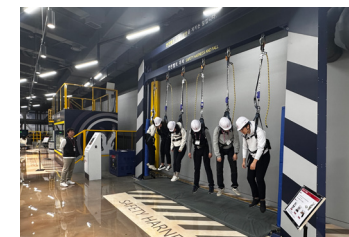
Daily Health and Safety Education Materials

“Safety ON”, the safety experience center

In February 2022, LOTTE E&C proudly inaugurated Safety ON, the safety experience center which is a dedicated training facility to enhance health and safety. This center allows employees, partners, and workers to immerse themselves in realistic scenarios of various hazards and unsafe conditions. Equipped with an array of interactive experience facilities and cutting-edge VR technology, the center seamlessly integrates hands-on training with manual trainings on managing major industrial accidents. In 2023, a total of 2,744 people from 132 sites participated in the training. Our commitment to safety is further exemplified through strategic partnerships with the Korea Occupational Health and Safety Agency, Korea Expressway Corporation, and other domestic peers, underscoring the collective effort to elevate safety education and foster secure workplaces. LOTTE E&C remains dedicated to enhance safety awareness and develop robust coping skills among employees and workers, reinforcing our unwavering commitment to a safe and secure working environment.



Business Agreement Ceremony for Safety ON



Thematic Safety Training

RISK MANAGEMENT

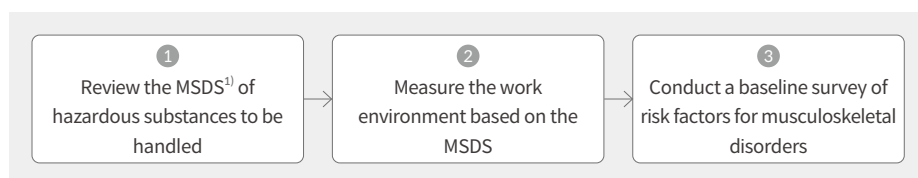
ANALYZING MAJOR ACCIDENT CAUSES AND DEVISING PREVENTIVE MEASURES

At LOTTE E&C, we meticulously analyze the causes of accidents and proactively establish and implement preventive measures to avert recurrences. Our analysis of severe accidents over the past three years reveals that fall-related incidents were the most prevalent. To address this, we have undertaken comprehensive inspections of fall risk factors and launched company-wide initiatives aimed at preventing fall accidents. In our commitment to preventing industrial accidents, we respond to risk factors identified through industry-specific risk assessments and uncover additional hazards by using on-site inspections. Key hazardous factors include open edges, ends, flammables, hazardous substances, equipment, tools, electricity, work platforms, and materials. We address these hazards by improving them by periodic inspections in line with legal requirements and by implementing measures to prevent recurrence through diligent follow-up management. Moreover, when harmful factors such as noise, dust, hazardous substances, and improper work postures are detected, factors that could lead to serious health issues, we conduct comprehensive follow-up and improvement activities. These include special medical examinations, occupational disease prevention programs, and basic assessments of musculoskeletal disorders.

Criteria for Major Disaster Investigation



Occupational Disease Prevention Measures



1) Material Safety Data Sheet

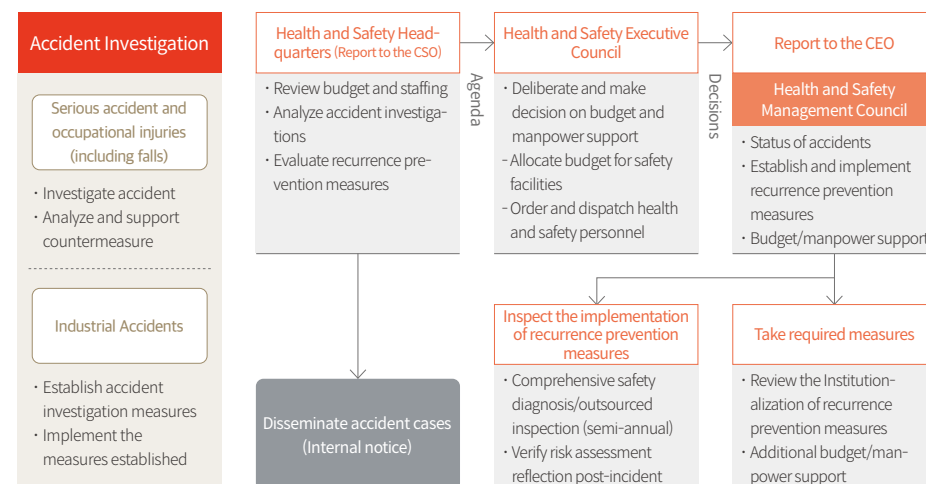
ACCIDENT INVESTIGATION AND REPORTING PROCEDURES

LOTTE E&C establishes and implements robust measures to prevent the recurrence of disasters, in full compliance with the Serious Accidents Punishment Act. We categorize incidents into serious, accidental industrial, fall-related accidents, and other types of industrial incidents. Our approach ensures a swift and thorough response to each category, following meticulous investigation and reporting procedures.

Disaster Types

Category	Contents
Serious Accidents	Serious industrial accidents + serious civil disasters in the Serious Accidents Punishment Act
Accidental industrial accidents	1) Equipment, falling of 2 people simultaneously: Accidents by direct (collision/confinement), indirect (object/material) causes 2) Fire, suffocation, electric shock: human, material, group issue, media exposure, confined space work 3) Collapse (demolition): Technical industrial accidents involving temporary facilities and structures
Fall occupational accidents	Fall type of industrial accidents
Industrial Accidents	Any disaster that results in an injury (including work-related personal illness)

Accident Investigation and Reporting Procedures

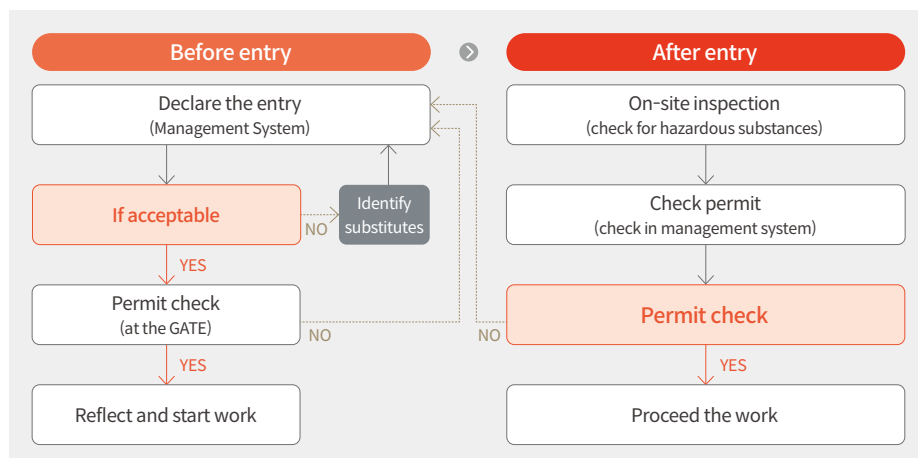


RISK MANAGEMENT

OPERATING THE WEB SYSTEM FOR HAZARDOUS SUBSTANCE MANAGEMENT

We have developed and implemented the “Web System for Managing the Entry of Hazardous Substances” to proactively prevent acute poisoning of workers and ensure compliance with regulatory requirements by identifying and managing substances prior to their entry. The entry of hazardous substances is rigorously monitored, with permit checks in place to ensure that only authorized substances are used, and any unauthorized materials are strictly prohibited.

Management Procedures for Bringing Hazardous Substances



RIGHT OF WORK SUSPENSION

At LOTTE E&C, our Health and Safety Management Regulations assert that “an employer must cease work if an employee has a reasonable belief that imminent danger of an industrial accident exists and must not penalize or dismiss the employee for evacuating.” We have also integrated the right of work suspension into our on-site health and safety management guidelines through the Occupational Health and Safety Committee. To effectively manage work suspension and reports of unsafe conditions, we utilize various reporting platforms, including the site’s dedicated hotline (SNS, landline) and the headquarters’ Situation Room for Safety.

ENHANCING COMPREHENSIVE ON-SITE SAFETY MANAGEMENT INSPECTIONS

To enhance safety management standards and bolster the effectiveness and execution of accident prevention measures, LOTTE E&C has shifted from targeted inspections to a comprehensive inspections of overall safety management at our sites. In particular, we have notably introduced an interview system for key employees, prioritizing the quality of inspections over the quantity. This system enables us to schedule additional inspections and re-examine identified problem areas as needed. Furthermore, we are dedicated to improving the effectiveness of safety management by identifying underlying vulnerabilities and providing customized support in terms of manpower and budget.

Comprehensive Inspections



Health and Safety Inspection in 2023

Type	Operation of inspections		Inspection result	
	Number of inspections	Number of personnel	Number of nonconformity cases	Number of cases addressed
Comprehensive safety diagnosis	67	310	3,851	3,851
Special inspection	266	347	3,705	3,705
Entrusted inspection	98	194	843	843
Others ¹⁾	271	406	2,634	2,634
Total	702	1,257	11,033	11,033

1) CSO Inspection, Executive Inspection, Early Construction Stage Inspection, etc.

RISK MANAGEMENT

EMERGENCY RESPONSE TRAINING

LOTTE E&C carries out rigorous emergency response drills to mitigate risk factors associated with serious industrial accidents and to minimize their impact when they occur. In an effort to effectively address potential serious industrial accidents, we have developed the guidelines for preparing for serious industrial accident risks. These guidelines support our comprehensive and partial drills, ensuring smooth execution of reporting and response measures. Comprehensive drills, held biannually, encompass all employees and focus on preparing for serious industrial accidents such as falls, fires, and equipment overturns. On the other hand, partial drills are conducted quarterly and designed to enable rapid and precise work suspension and evacuation in response to specific imminent dangers associated with various work types and areas. We also conduct training on the use of AEDs (Automated External Defibrillators)¹⁾ and CPR (Cardiopulmonary Resuscitation)²⁾ to ensure swift emergency response. The outcomes of these drills are analyzed by the Health and Safety Headquarters to refine procedures and update manuals. The results are reviewed and reported to the CEO during the semi-annual health and safety management meetings, ensuring continuous improvement in our safety protocols.

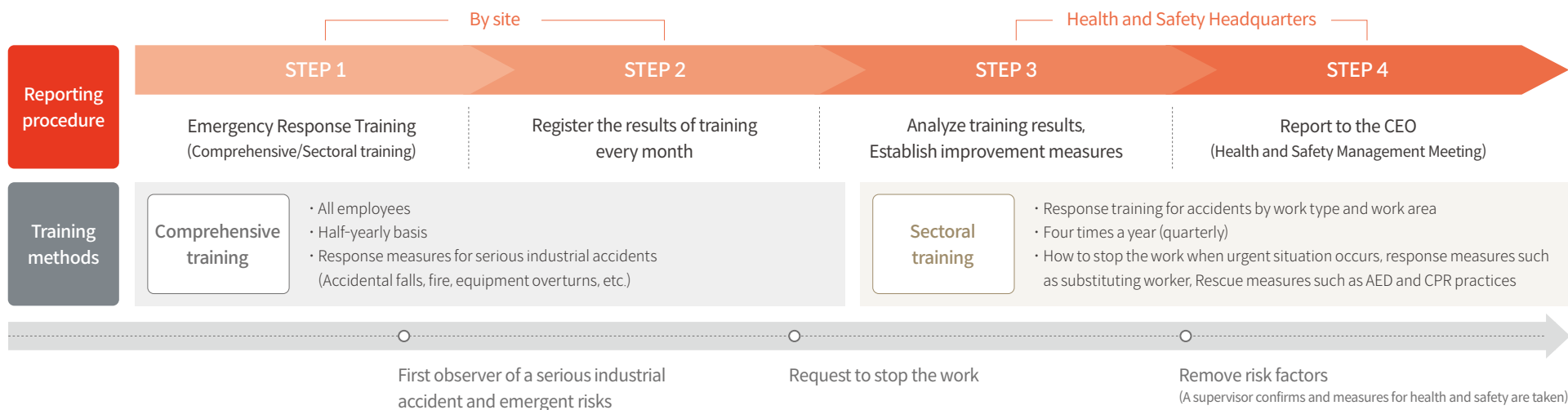
Examples of Urgent Risks

1	When there is a high risk of accidental falls due to the lack of scaffolding, safety handrails, etc.
2	When the installation of scaffoldings, molds, supporting posts are not done properly or inappropriate materials have been used
3	When there is a high possibility of collapse due to deformation of soil, fixtures, etc.
4	When there is a possibility of fire and explosion due to combustible and flammable substance use in authorized area
5	When there is a possibility of leakage of chemical materials due to failure or deformation of facilities that handle hazardous and dangerous chemical substances
6	When oxygen concentration is not measured before working in a closed area
7	When a local air exhaust system is not installed at sealing facilities for hazardous chemical materials
8	When there is a risk of falling or collision of cranes and excavators
9	Other instances where it is deemed to be an urgent risk

1) Automated external defibrillator, a device used to deliver electric shock through the chest of a patient with sudden cardiac arrest to bring back the heart rhythm

2) Cardiopulmonary resuscitation, emergency lifesaving technique used to maintain breathing and blood circulation when someone's breathing or heartbeat has stopped

Actions Taken by Guidelines to Prepare for Serious Industrial Accidents

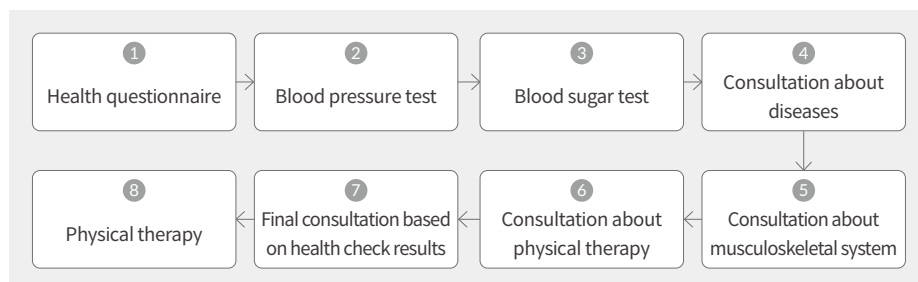


RISK MANAGEMENT

EMPLOYEE HEALTH MANAGEMENT PROGRAM

LOTTE E&C supports the health and well-being of our workers through our comprehensive employee health checkup and follow-up program, in collaboration with health centers. Our program offers individualized support based on checkup results, with one-on-one consultations from specialized medical staff and on-site health managers to help workers effectively manage their stress levels. We have also implemented advanced measuring devices to monitor cardiovascular health and made these tools readily accessible at worksites. Moreover, we distribute seasonal health and safety management guides addressing issues such as heatwaves, cold spells, and outdoor work conditions, ensuring that our workers receive continuous and relevant health support.

Health Management Program for Employees



REST FACILITIES AND WORK ENVIRONMENT

To improve working conditions and prevent health hazards for our employees, we provide rest areas, washing and bathing facilities, and other sanitary amenities. We ensure the necessary budget for the installation and maintenance of these facilities, and appoint dedicated personnel to manage their hygiene regularly. In cases where space is limited, we support our workers' health by utilizing mobile units and temporary facilities, ensuring a safe and healthy working environment.



Employee Health Check Center

METRICS & TARGETS

ESTABLISHING HEALTH AND SAFETY MANAGEMENT GOALS FOR 2024

Each year, LOTTE E&C reassesses its occupational safety goals to focus on areas of high severity within our work processes. For 2024, we have set a goal of achieving “zero fall-related accidents” to strengthen our employees' safety management skills and deeply embed a culture of safety throughout the organization.

2024 Objectives

SERIOUS ACCIDENTS

ZERO

(ZERO FALL-RELATED ACCIDENTS)



ADVANCING SERIOUS ACCIDENTS MANAGEMENT INDICATORS

LOTTE E&C makes a continuous effort to creating a safe workplace by adhering to health and safety guidelines and preventing accidents across all construction sites. To achieve this, the Company has enhanced both qualitative and quantitative indicators related to serious accidents, aiming for zero accidents and establishing these as key management metrics for dedicated departments. We will continue to increase the annual budget for health and safety investments, building a safer workplace and proactively mitigating core risks associated with serious accidents.

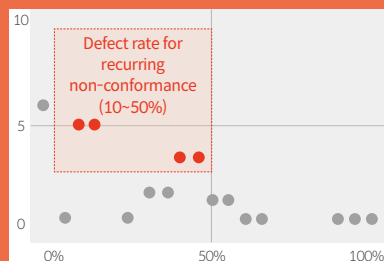
Serious Accidents Management Indicators

Health and safety management system	Number of Serious Accidents
Health and safety management monitoring	Number of fatalities
Health and safety management activities	Number of illnesses
Health and safety risk management	Total Recordable Injury Rate (TRIR)

IMPACT STORY

Key Accomplishments in 2023

Analysis of progress rate



Cumulative Number of Risk Factor Improvements¹⁾

539 cases in total

249 falls, 29 droppings/flying or falling objects, 60 overturning, etc.

1) Calculation scope: 80 sites (765 CCTV cameras), As of April 2024

SITUATION ROOM FOR SAFETY

Inaugurating the Situation Room for Safety in October 2023, LOTTE E&C has successfully prevented a total of 179 incidents over the following two months. Dedicated personnel continuously monitored real-time on-site conditions, including suspending work through a hotline at the first sign of danger. Regular analyses of monitoring results were conducted to drive continuous improvement. Each month, the Company reviews risk factors such as risk type, construction type, and progress rate, using these insights to inform ongoing safety guidance and inspection activities. We also manage construction safety by implementing a video system that integrates monitoring across our housing, architecture, civil engineering, and plant divisions, leveraging it for on-site safety oversight. In 2024, we plan to introduce additional mobile CCTVs to enhance our health and safety monitoring system, ensuring even blind spots are covered, with the Situation Room for Safety at the core of these efforts.



Opening ceremony of Situation Room for Safety



Real-Time Control System in Operation

ENHANCING MONITORING WITH THE RISK ASSESSMENT AI PROGRAM

In collaboration with Lotte Data Telecommunications, LOTTE E&C has developed and implemented the "Risk Assessment AI Program," which provides comprehensive statistics on risk factors and site-specific risk assessments. By using this program, we can enhance site-specific risk assessments and prevent accidents by using precise analysis and prediction of risk factors. Particularly focusing on sites with high construction difficulties, we ensure intensive monitoring to mitigate potential hazards. Furthermore, we prepare for emergency situations by factoring in weather-related risks such as typhoons and earthquakes and evaluating on-site response capabilities. Looking ahead, we intend to strengthen our continuous site monitoring system by utilizing the Smart Safety System of the Situation Room for Safety.

Process for AI-based Risk Assessment Program

	Analysis process	Person in charge
1	Prepare, review, and approve risk assessments	LOTTE E&C / Partner companies
2	Receive risk assessment data from all sites after 19:00 everyday	LOTTE E&C / Partner companies
3	Process and analyze risk assessment data (omission / misclassification, etc.)	(AI-based Risk Assessment Program)
4	Visualize risk assessment data	
5	Verify and analyze risk assessment data	LOTTE E&C
6	Utilize data in preparing risk assessments	LOTTE E&C / Partner companies



Risk Assessment AI Program Interface

03

HUMAN RIGHTS MANAGEMENT

OUR APPROACH

As a “Lifetime Value Creator” dedicated to delivering unparalleled value throughout the entire life cycle of our customers, LOTTE E&C actively embraces a human rights management approach that cherishes human dignity and worth. Our mission is to contribute meaningfully to the enrichment of quality of life. Rooted in esteemed international human rights frameworks, such as the “UN Universal Declaration of Human Rights” and the “UN Guiding Principles on Business and Human Rights,” we plan to undertake various initiatives to extend our commitment to human rights beyond our organization and share these values with our partners.



SOCIAL AND ENVIRONMENTAL IMPACT

Actual ●●●○○

FINANCIAL IMPACT

Risk and Negative ●●●●○○

Keyword Background

LOTTE E&C’s definition of human rights management

Companies engage with various stakeholders, including employees, partners, customers, shareholders, and local communities. Consequently, some European countries are introducing guidelines that require human rights due diligence, making human rights management an essential strategy for risk management and enhancing corporate value. LOTTE E&C defines human rights management as a corporate strategy designed to prevent human rights risks across the entire business process and to protect the rights of all stakeholders.

GOVERNANCE

In 2023, LOTTE E&C established a human rights management system by enacting the Charters of Human Rights Management and Policy. The Sustainable Management Committee conducts regular reviews of the human rights risk management system and reports significant risks to top management, ensuring effective oversight and supervision of human rights management at the highest level.

RISK MANAGEMENT

We identify potential human rights risks with regular assessments and come up with improvement measures to avert their recurrence. We monitor and swiftly address human rights violations by dedicated grievance resolution channels and LOTTE E&C Ombudsman. Our annual survey on human rights management further ensures the effectiveness of our initiatives and captures valuable stakeholder insights. Through vigilant monitoring and continuous improvement, LOTTE E&C strives to preempt human rights violations and elevate our management practices to new heights.

TARGETS & METRICS

Human Rights Management Indicators

Complaints filed through grievance resolution channel

100% Resolved



Performance in 2023 by KPIs

Advance the human rights management system

Formulated a Human Rights Management Policy

Human Rights Risks Management

Human Rights Management Survey, Human Rights Impact Assessment

Conducted 2 consecutive years

STRATEGY

In an effort to enhance awareness of human rights management, LOTTE E&C provides regular human rights education and trainings for employees. This training elevates employees’ understanding of human rights and aims to achieve consistent human rights management across the entire LOTTE E&C value chain by tailoring education to meet the specific needs of different workplaces.

Risks and Opportunities

Risks	- Human rights violations can cause disengagement and lower morale among employees and partners, potentially leading to a talent drain. Moreover, the growing presence of foreign workers in the construction industry can bring about language and cultural challenges, negatively impacting a company’s productivity and creating additional human rights issues.
Opportunities	- As human rights issues are closely linked to corporate social responsibility, a company can enhance corporate image and reputation by dealing with these concerns proactively, thereby contributing to long-term competitiveness.

Stakeholders

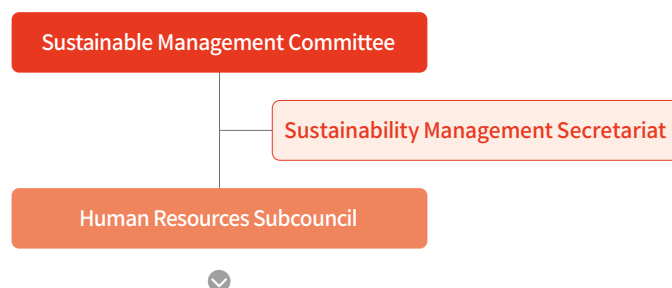
Employees, partners, and customers

GOVERNANCE

HUMAN RIGHTS MANAGEMENT ORGANIZATION

At LOTTE E&C, we are committed to promoting and upholding human rights throughout our operations. Our Human Resources Subcouncil is responsible for addressing human rights risks and issues, and it regularly receives updates on these matters across our entire value chain. Our Sustainable Management Committee plays a key role in establishing strategic measures to prevent human rights risks, overseeing the monitoring of our efforts to integrate human rights management throughout the Company. In 2023, we took significant steps by conducting our first Human Rights Management Survey and Human Rights Impact Assessment. These initiatives allowed us to identify both internal and external human rights risks, report these issues to our CEO, and assess areas for future improvement. Looking ahead, the Human Resources Subcouncil will continue to conduct comprehensive human rights impact assessments, considering various company-wide factors such as safety, environmental impact, supply chain management, and information security. We will also maintain transparency by disclosing our Human Rights Charter and policies, and regularly surveying our employees on human rights management.

Human Rights Management Organization



Implement and monitor human rights management strategy

Revise and announce Charters of Human Rights Management and policies, Develop human rights management action plans, Handle human rights-related complaints, conduct human rights training, Perform human rights surveys and impact assessments, Identify and manage risks through human rights management improvements.

LOTTE E&C HUMAN RIGHTS MANAGEMENT POLICY

In 2023, LOTTE E&C developed a human rights management policy tailored to the unique needs of the construction industry, building on the LOTTE Group's Charters of Human Rights Management, which guides our internal and external human rights practices. Our policy is grounded in key international human rights principles and standards, including the "UN Universal Declaration of Human Rights," the "UN Guiding Principles on Business and Human Rights," the "International Labour Organization's Core Conventions," the "OECD Guidelines for Multinational Enterprises," and the "UN Convention on the Rights of the Child". It also mandates compliance with all relevant human rights and labor laws in the regions where we operate. This policy applies to all LOTTE E&C employees, and we also encourage our stakeholders throughout the value chain, including contractors and subsidiary employees to respect and support these human rights standards.

LOTTE Group's Charters of Human Rights Management

LOTTE E&C Human Rights Management Principles

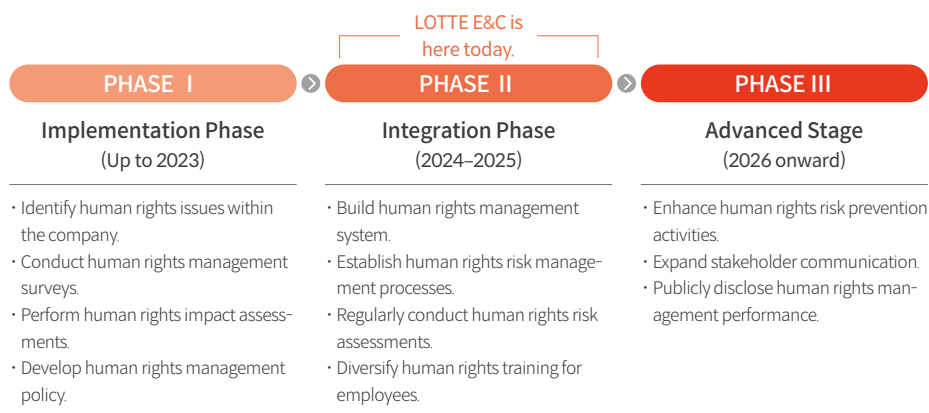
Article 1: Respect for Human Dignity and Value	Article 8: Protect Personal Information
Article 2: Prohibit Child Labour	Article 9: Assure Occupational Safety
Article 3: Prohibit Forced Labour	Article 10: Manage responsible Supply
Article 4: Guarantee Freedom of Association	Article 11: Guarantee Environmental Rights
Article 5: Comply with Labour Conditions	Article 12: Protect Human Rights of Local Residents
Article 6: Respect Diversity	Article 13: Protect Customer Rights
Article 7: Prohibit Sexual Harassment and Workplace Bullying	

STRATEGY

MID-TO LONG-TERM HUMAN RIGHTS MANAGEMENT STRATEGY

LOTTE E&C has set clear human rights management goals across three levels to effectively internalize our human rights management system. Since enacting the Human Rights Management Policy in 2023, the Company has developed a system to safeguard employee rights and support their work-life balance. Currently, we are focused on advancing our human rights management practices in line with updated policies and global standards. We will continue to provide various channels for stakeholders to openly discuss and address human rights issues.

Phased Implementation Tasks for Human Rights Management



BUILDING AN ORGANIZATIONAL CULTURE BASED ON DIVERSITY AND INCLUSION

LOTTE E&C's Human Rights Management Policy emphasizes our commitment to respecting diversity and fostering a work environment free from discrimination. As a global company, we offer safety training materials translated into six languages to ensure that our global workforce can operate safely, without language or cultural barriers. This effort reflects our inclusive organizational culture, which supports effective communication and mutual respect among all employees, including foreign workers who are valued members of LOTTE E&C. We remain dedicated to creating a workplace where every employee can reach their full potential, regardless of nationality, race, gender, age, or other characteristics.

RISK MANAGEMENT

GRIEVANCE RESOLUTION CHANNELS

The Company operates the "Cyber Ombudsman" and "online grievance resolution channel" to address human rights violations. These channels are available for employees, third parties, and organizations to report human rights violations or risks immediately. We handle a range of grievance, including job stress, working condition complaints, interpersonal issues, and workplace harassment, taking appropriate actions to resolve these issues in accordance with relevant laws and internal procedures. To ensure that reporting does not result in any disadvantage, the Company guarantees anonymity of both the complainant and the informant. We also have a system in place to delete sign in or IP records in bulk when complaints are received. In cases of human rights violations, we implement personnel measures and conduct awareness training to prevent recurrence and foster a healthy corporate culture where all employees feel secure. In 2023, all complaints filed through these channels were related to working conditions, with no reported cases of human rights violations, discrimination, or harassment. Every single complaint has been resolved after consultation with the grievance resolution committee.

LOTTE E&C Cyber Ombudsman

LOTTE E&C Online Grievance Counseling Channel

Grievance Handling Procedure



Status of Taking Measures

(Unit: case, %)

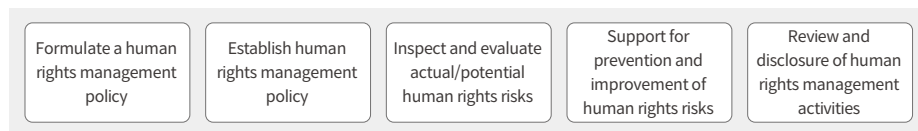
Category	2021	2022	2023
Number of requests	19	23	21
Number of requests resolved	19	23	21
Resolution rate	100	100	100

RISK MANAGEMENT

HUMAN RIGHTS RISK MONITORING FRAMEWORK

LOTTE E&C has established a comprehensive human rights risk monitoring system designed to protect all stakeholders and minimize human rights risks. Given the unique nature of construction sites, where various types of work are performed, we pay particular attention to identifying human rights risks for workers in these environments. To address this, the Company regularly conducts human rights impact assessments, focusing on aspects such as occupational health and safety, to detect violations and identify areas for improvement. We also take appropriate actions against individuals who violate human rights-related laws and regulations, which includes conducting thorough investigations and creating plans to prevent related problems. The Company will transparently report the results of our improvement efforts and risk remediation in the LOTTE E&C Sustainability Report and on our website.

Human Rights Risk Management System



EVALUATION OF HUMAN RIGHTS IMPACT

Guided by the “UN Principles on Human Rights Due Diligence”, LOTTE E&C makes effort to identifying, preventing and addressing actual and potential human rights risks associated with our business activities. Our recent Human Rights Impact Assessment, which evaluates 10 key indicators across all lines of business areas, revealed a final compliance rate of 90.7% for all indicators in 2023. We have identified areas for improvement based on these results and will actively work to make necessary changes to further strengthen our human rights management practices.

Human Rights Risk Monitoring Process



Indicators for Human Rights Impact Assessment

Human Rights Management System	Ensuring the Environmental Rights
Non-discrimination in Employment	Prohibition of Forced Labour
Guarantee of Freedom of Association and Collective Bargaining	Prohibition of Child Labour
Assurance of Occupational Safety	Consumer Protection and Employee Information Protection
Stakeholder Protection	Responsible Supply Chain Management

Direction for Human Rights Impact Assessment

Evaluation type	Regular evaluation	Frequency	Annually
Responsible department	LOTTE E&C human rights management department	Method	Conduct self-assessments by departments responsible for each indicator, followed by identifying and addressing areas of vulnerability

Results of Human Rights Impact Assessment

The Company carried out human rights impact assessments across 12 departments using a self-assessment and evidence submitted. The highest achievement rates were found in areas such as freedom of association and collective bargaining, prohibition of child labor, and occupational health and safety. For the areas with below-average achievement rates, we have created action plans to tackle the identified issues and mitigate negative impacts.

Identified Issues for Improvement

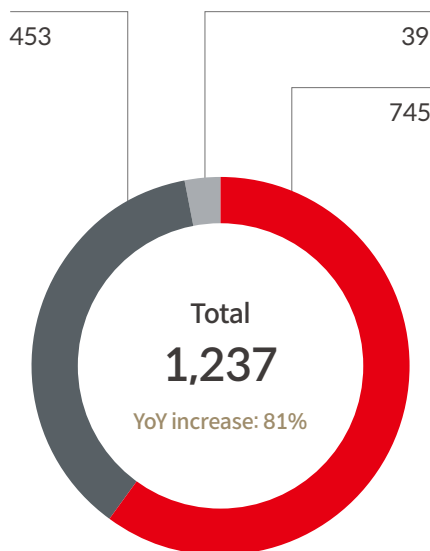
Issues	Overview of findings	Action plan
Protect stakeholders' rights	Establish intellectual property protection systems for stakeholders	Develop internal guidelines for intellectual property protection
Responsible supply chain management	Enhance activities to prevent human rights violations by partners	Refine partner code of conduct guidelines

RISK MANAGEMENT

INVESTIGATION ON HUMAN RIGHTS MANAGEMENT

LOTTE E&C undertakes human rights management surveys from the headquarters to all construction sites to fortify our commitment to human rights, nurture a culture of respect, and gain insights from employees' awareness and experiences. In 2024, we engaged 1,237 employees in this survey, exploring 19 key areas, including the level of effectiveness of our human rights management system, efforts to prevent violations, and response measures for addressing human rights risks. The survey highlighted "efforts to protect personal information" as the most outstanding strength, and "compliance with working conditions" showed the most notable improvement compared to the previous year. These insights will serve as a foundation for enhancing our initiatives to prevent human rights violations. We will continue to refine employee training and development to deepen the integration of human rights management and cultivate a culture of respect, incorporating the feedback and improvement needs expressed by our valued employees.

Number of Respondents to the Human Rights Management Survey (Unit: Persons)



- Headquarters
- On-site
- Others

Results of Human Rights Management Investigation

	Category	Average score	Improvement rate (%)
Level of effort for Preventing human rights violation	Efforts to protect personal information	4.22	7.11
	Operation of policies to prevent sexual harassment in the workplace	4.09	9.39
	Implementation of efforts to protect the human rights of the employees and partner companies	4.06	8.27
	Prevention of workplace harassment	3.96	9.39
	Creating a comfortable work environment	3.89	11.14
	Guarantee of non-discrimination	3.87	13.49
	Compliance with working conditions	3.74	15.43
Level of development for human rights management	Human rights to improve awareness	3.87	9.32
	Notification of human rights management execution	3.85	10.32
	Identification of human rights risks and development of improvement measures	3.78	13.86
	Provision of remedies for victims of human rights violations	3.66	7.33
Rating scale: 1 = very low 3 = average 5 = very high			

Activities to Strengthen Human Rights Management in 2023

Strengthening Efforts to Protect Personal Information

2023 Objectives

Revision of Information Protection Regulations and Guidelines

Shared updates with all employees in line with revisions to the Personal Information Protection Act and the Information and Communication Network Act

Compliance with Working Conditions

August 2023

Revised Employment Rules

Enhanced labor protection system for pregnant women, established an optional work system and clarified rules for prohibiting and preventing workplace sexual harassment

Analysis Results of Human Rights Violation Experiences

Including cases of human rights violations experienced by employees in the human rights management survey allows us to identify and mitigate human rights-related risk factors. The 8.46% decrease in reported human rights violations compared to the previous year is a testament to the effectiveness of LOTTE E&C's established and evolving human rights management practices. To further reduce instances of human rights violations, LOTTE E&C plans to provide customized human rights training tailored to the specific needs of various workplaces, including on-site locations, headquarters, and branch offices. We will continue to monitor activities closely, addressing potential human rights issues throughout our value chain to proactively reduce risks.

Strengthening compliance with labor conditions

YoY Change Rate

13.86% ↑



RISK MANAGEMENT

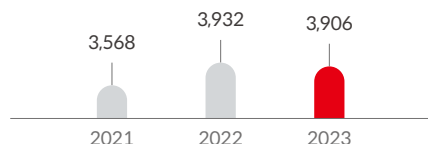
EMPLOYEE HUMAN RIGHTS TRAINING AND SUPPORT

To deepen our employees' appreciation and understanding of human rights management, LOTTE E&C provides annual training sessions on preventing workplace sexual harassment and promoting disability awareness for all staff members. Through these regular, thoughtfully designed trainings, the Company aspires to elevate human rights awareness and actively safeguard the rights of our employees and other stakeholders, fostering a culture of respect and dignity within our organization.

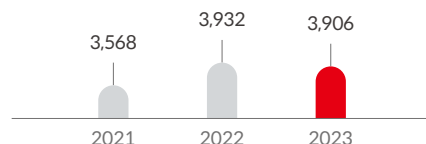
Employee Education and Training on Human Rights

(Unit: Persons)

Number of employees subject to sexual harassment prevention training



Number of employees subject to disability awareness training



Human rights training performance for employee

Completion rate of human rights training

100%

Total hours of Education and Training on Human Rights

7,734

HUMAN RIGHTS PROTECTION PROGRAM FOR EMPLOYEE

Since 2021, we have been operating the "Heartful Supports Program," a dedicated initiative to support the mental well-being of our employees. This program offers counseling and coaching from experts in various fields, including job stress, organizational conflicts, healthcare, emotional and personality issues, child-rearing, financial management, and legal matters. The support extends not only to employees but also to their spouses and children, helping them address and resolve psychological challenges. With the Program, we are making our utmost effort to ensure that our employees can maintain a healthy and happy work life.

METRICS & TARGETS

ESTABLISHING HUMAN RIGHTS MANAGEMENT PERFORMANCE INDICATORS

LOTTE E&C is dedicated to fostering a robust human rights culture by advancing our human rights management practices. To achieve this, we are establishing and managing comprehensive performance indicators. Starting in 2023, we have been and will be responsively developing our human rights management framework, which includes monitoring risks using human rights impact assessments and surveys, implementing and overseeing improvements to address identified risks, and strengthening our human rights management governance.

Key Performance Indicators

Human rights risk management

Human rights impact assessment and monitoring

Formulate a human rights management policy

Provide education and training on human rights

HUMAN RIGHTS MANAGEMENT GOALS

We have set mid- to long-term goals for human rights management to ensure the effective internalization of our human rights management system. Since the enactment of the Human Rights Management Policy in 2023, the Company has implemented a system designed to continuously monitor employee health and safety, while also supporting their work-life balance. We intend to expand the scope of our human rights impact assessments across the entire company in accordance with the UN Guiding Principles on Business and Human Rights.

Mid-to Long-Term Goals for Human Rights Management

Short-term

Mid-term

Long-term

Establish a human rights management system

Advance the human rights management

Internalize and expand human rights management

Establish Charters of Human Rights Management and policies

Conduct human rights impact assessments and human rights management surveys

Expand the scope of human rights impact assessment throughout the company

04

SHARED GROWTH WITH PARTNER COMPANIES

OUR APPROACH

Today, managing sustainability issues like environmental impacts, human rights, and labor practices is essential across the entire supply chain, as exemplified by the EU Corporate Sustainability Due Diligence Directive. Aligning with global standards, LOTTE E&C has conducted self-assessments of our partners' ESG practices to identify potential risks and carry out measures to improve performance. This proactive approach, the Company aims to elevate sustainability across the supply chain and foster growth partnerships rooted in mutual trust and shared prosperity.



SOCIAL AND ENVIRONMENTAL IMPACT

Actual ●●●●○

FINANCIAL IMPACT

Risk and Negative ●●●●○

Keyword Background

LOTTE E&C's Definition of Shared Growth with Partners

In the construction industry, which encompasses a wide range of sectors and work processes, it is essential for companies and their partners to collaborate for shared growth to achieve common goals and sustainable development. This collaboration transcends a mere business relationship, focusing on enhancing the competitiveness of both parties by strengthening partners' capabilities, supporting technology development, and fostering a fair trade environment. From this perspective, LOTTE E&C envisions shared growth as a strategic partnership, elevating the essence of mutual success with our partners to a core principle.



GOVERNANCE

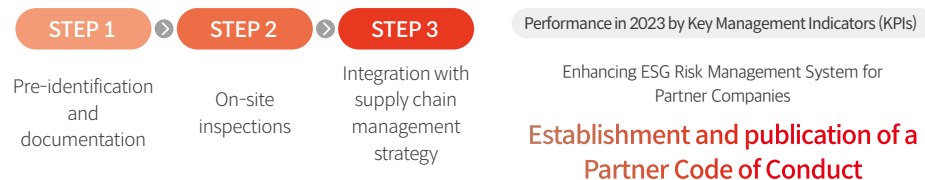
We have established the Shared Growth Secretariat, which collaborates with various departments, including planning, human resources, finance, safety, technology, and construction management, to implement detailed tasks. To ensure transparency, the Company has created an internal review committee to evaluate the fairness and legality of subcontracting transactions in advance. This has promoted a culture of fair subcontracting and addressed dispute mediation applications from partners. On top of that, the Sustainable Management Committee, also under the CEO, deliberates and resolves policy issues related to shared growth with our partners.

RISK MANAGEMENT

In 2024, LOTTE E&C conducted an "ESG Self-Assessment Survey" for 21 of its partners to assess their awareness and implementation of ESG management practices, and to identify potential risk areas. We will continue to refine the checklist for assessment to align with global trends and broaden the scope of our assessments to thoroughly analyze risk factors across the entire value chain.

TARGETS & METRICS

Expanding ESG Risk Assessment and Due Diligence for Partner Companies



STRATEGY

LOTTE E&C has introduced and published the "Guidelines for Code of Conduct for Partners" to foster fair trading relationships, enhance the support system for our partners, and build mutual trust. By making these efforts, we aim to cultivate a healthy supply chain culture and achieve sustainable growth with all our stakeholders.

Risks and Opportunities

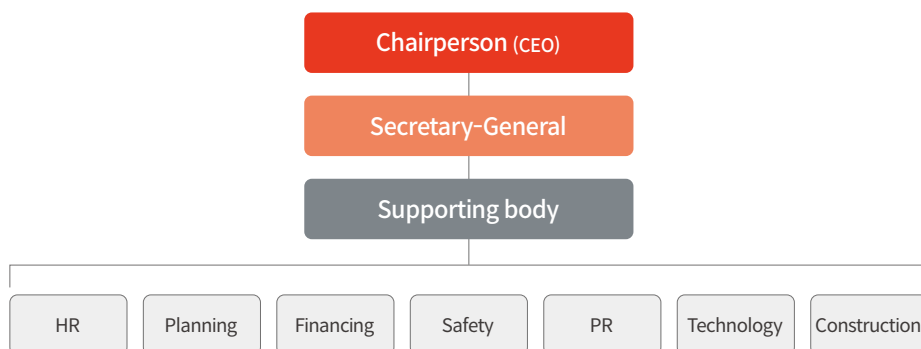
		Stakeholders
Risks	- Financial risks include cost fluctuations from key commodity prices and delays in raw material transportation, causing additional costs.	Employees, partners, customers, government agencies
	- Increased global regulations, like supply chain due diligence, may raise legal compliance costs and complicate supply chain management, potentially impacting business negatively.	
Opportunities	- Enhanced supply chain management can prevent defective material imports, improve product quality, improve working conditions, and strengthen partnerships through fair trade practices.	Employees, partners, and customers

GOVERNANCE

SHARED GROWTH SECRETARIAT

LOTTE E&C strives for shared growth with our partners, a commitment that resonates throughout our entire organization. Since 2010, we have been nurturing this commitment of supporting our partners through the Shared Growth Secretariat, a dedicated body directly overseen by the CEO. This Secretariat collaborates seamlessly with various departments such as planning, human resources, finance, safety, technology, and construction management to ensure the effective implementation of initiatives aimed at promoting shared growth.

Shared Growth Secretariat Organization



INTERNAL REVIEW COMMITTEE

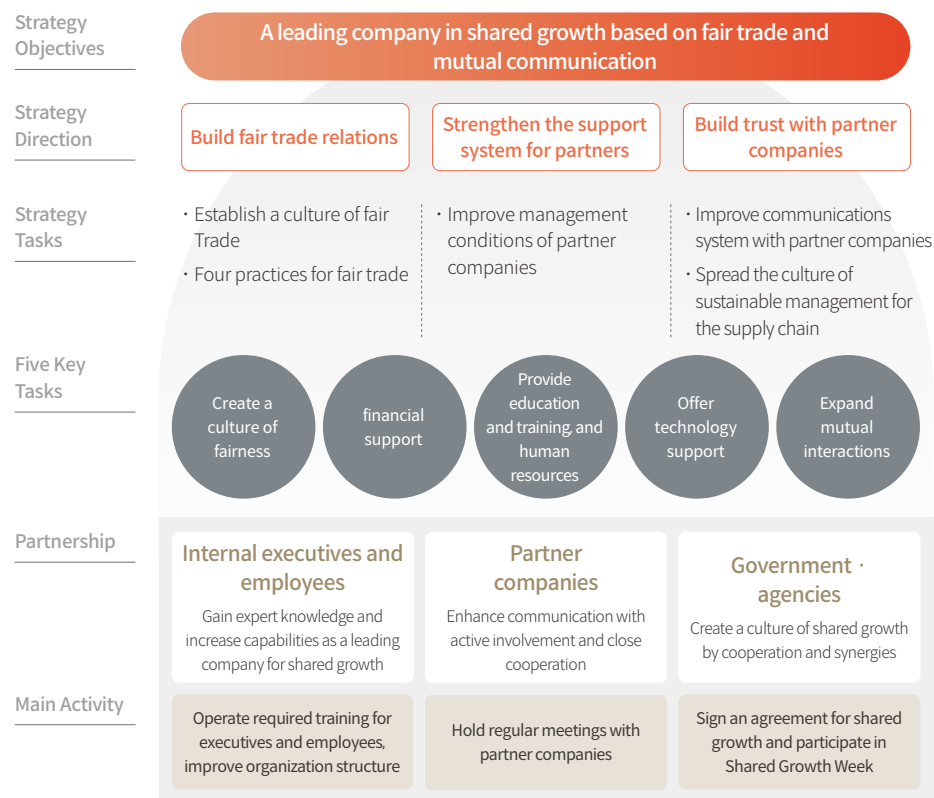
At LOTTE E&C, we maintain an Internal Review Committee dedicated to ensuring the fairness and legality of subcontracting transactions. Comprising three or more members from the Sourcing and Procurement Division, including the executive responsible for subcontracting (chairperson), the committee may also appoint the head of the Estimation Team, the head of the Technical Department, and the head of the field site when needed. The committee convenes regularly once a month, with additional meetings held as issues arise. It also addresses subcontract dispute mediation applications from partners and can solicit anonymous feedback from subcontractors to ensure all voices are heard.

STRATEGY

SHARED GROWTH PROMOTION SYSTEM

Guided by our strategic goal of becoming “A leading company in shared growth based on fair trade and mutual communication,” LOTTE E&C has outlined three key directions: cultivating equitable trade relationships, enhancing support systems for our partners, and building enduring trust. In alignment with our supply chain strategy, we make continuous efforts by providing financial support to partners, offering educational and manpower resources, delivering technical assistance, and broadening opportunities for collaborative exchange.

Shared Growth Improvement Programs



STRATEGY

STRATEGY 1 CULTIVATING AND SUSTAINING FAIR TRADE PARTNERSHIPS

3 Key Partnership Principles for Shared Growth

At LOTTE E&C, our commitment to shared growth is rooted in fulfilling our corporate responsibilities with balanced partnerships with key stakeholders, aiming to deliver mutual value. In this spirit, we have identified and defined our three core partners for shared growth: our partners, internal employees, and government and agencies, which are transparently shared on our website, reflecting our dedication to fostering shared growth.

Strategic Focus by 3 Key Partners

Item	Partners	Internal Employees	Government/Agencies
Strategy	Strengthen communication via regular updates and proactive engagement.	Enhance knowledge and capabilities to effectively practice shared growth.	Foster a culture of shared growth through collaboration and synergy.
Measures	Regular visits by the CEO and satisfaction surveys.	Mandatory training for employees and organizational development.	Sign shared growth agreements and participate in Shared Growth Week.

Four Practices for Shared Growth

In 2009, LOTTE E&C introduced three key practices: selecting and managing suppliers, establishing and operating an Internal Review Committee for subcontracting transactions, and creating desirable contracts. To publicly declare our commitment to shared growth, we signed the Agreement on Shared Growth and Fair Trade for Construction Companies in 2011. In 2012, we added practices for issuing and preserving documents, thereby fulfilling all four recommended practices by the Fair Trade Commission. These practices are publicly disclosed on the LOTTE E&C Shared Growth website.

LOTTE E&C Shared Growth website [🔗](#)

4 Practices for Shared Growth

Contract Signing Practices for Win-Win Cooperation Among Large, Medium and Small Businesses

Practice guideline for selection and management of partner companies

Installation and operation of Internal Deliberation Committee for contract with subcontractors

Practice guideline for issuance and preservation of document

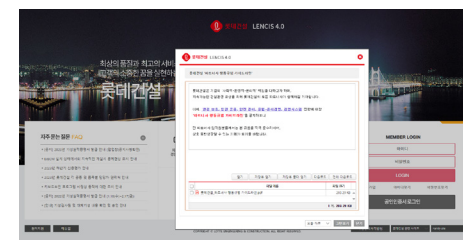
Code of Conduct of LOTTE E&C Partners

LOTTE E&C has formulated the “Guidelines for Code of Conduct for Partners,” crafted with the principles of the LOTTE Group’s “Code of Conduct for Partners” and tailored to the unique needs of the construction industry. We encourage all partners, including subcontractors, to adhere to these guidelines, which are grounded in esteemed frameworks such as the “UN Universal Declaration of Human Rights,” the “UN Guiding Principles on Business and Human Rights,” the “OECD Guidelines for Multinational Enterprises,” the “UN Convention on the Rights of the Child,” and the “International Labour Organization (ILO) Core Conventions.” These principles are readily accessible on our partner portal website. In cases where the Code of Conduct may conflict with local laws and regulations, we adhere to the more stringent standards and actively support our partners in embracing robust ESG management practices.

Partners’ Code of Conduct disclosed on the website

LOTTE E&C Partner Portal Website [🔗](#)

LOTTE Group Code of Conduct for Partners [🔗](#)



Partner Code of Conduct Guidelines

Environmental Protection(6)

- 1 Establishment of Environmental Management System
- 2 Climate crisis response
- 3 Air pollution management
- 4 Waste Management
- 5 Water resource management
- 6 Chemicals Management

Human Rights Protection(7)

- 1 Anti-discrimination
- 2 Provision of wages and benefits
- 3 Observance of working hours
- 4 Humane treatment
- 5 Freedom of association
- 6 Protection of minor workers
- 7 Prohibition of forced labor

Safety Management(6)

- 1 Industrial Safety Assessment
- 2 Contingency plan
- 3 Accident management
- 4 Safety management of machinery, equipment, and Facilities
- 5 Health management
- 6 Product quality and safety

Compliance and Ethical Management(4)

- 1 Prohibition of illegal profits
- 2 Transparency of management
- 3 Prevention of unfair trade
- 4 Information protection

Management System(5)

- 1 Manifestation of sustainable management
- 2 Risk Management
- 3 Education and communication
- 4 Compliance with laws and regulations
- 5 Responsible supply chain management

STRATEGY

STRATEGY 2 REINFORCING SUPPORT MECHANISMS FOR PARTNERS

Technical Support for Partners

We are deeply committed to nurturing our partners' technological advancement, aiming to bolster their mid- to long-term competitive edge. Over the course of 2023, we proudly supported 35 joint R&D projects and 23 joint product development initiatives, which included design registrations and applications. Moreover, when leveraging the patented technologies of our partners in construction, we ensure fair compensation through contracts with the patent-holding entities. In 2023 alone, we forged 30 new contracts to integrate our partners' patents and cutting-edge technologies. Additionally, we celebrated the spirit of innovation by awarding KRW 50 million to 11 companies in our Technology Innovation Contest.

Developing Joint Technology and Protecting Technical Data

LOTTE E&C supports various forms of technological development, including joint new technology and product development, joint R&D, and joint patent applications and registrations. The Company protects the core technologies of our SME partners through initiatives such as interest-free loans for technology development and a technology data escrow system. We remain committed to leading the construction industry in technology protection policies.

Technology Support Overview in 2023

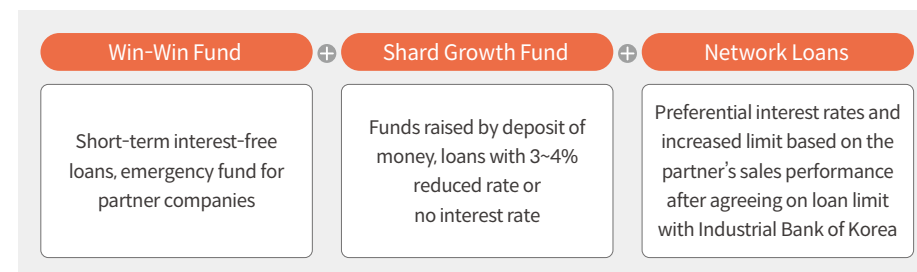
(Unit: Case, KRW thousand)

Category	Number of cases	Amount supported
Joint R&D	35	537,360
Joint product development	23	86,516
Patents and new technology contract orders	30	-
Technology Innovation Contest (Awards)	11	50,000
Total	99	673,876

Financial Support for Partners

LOTTE E&C tries to alleviate the financial challenges faced by our SME partners by offering a range of financial support programs in collaboration with financial institutions. The Company provides interest-free loans amounting to KRW 15 billion for a period of 12 months, designed to bolster our partners' working capital. We also cover the costs associated with issuing payment guarantees to support them. To enhance payment terms and foster trust, LOTTE E&C ensures that all payments to partners with construction and service subcontracts are made in full and in cash. LOTTE E&C intends to expand its financial support mechanisms. Our future plans include providing emergency funds, rewarding outstanding and long-standing partners, and offering support for partner welfare benefits. By making these efforts, we aim to fortify the financial stability and well-being of our valued partners.

Financial Support Programs



Key Financial Support Program Results

(Unit: KRW million)

Category	Amount supported	Category	Amount supported
Direct loans to partners	15,000	Rewards for outstanding partners	480
Direct loan guarantee fees	191	Rewards for long-time partners	28
Shared growth fund ¹⁾	57,000	Partner welfare support	39

1) Co-founded with Industrial Bank of Korea (KRW 28.5 billion matching each) to support low-interest loans

STRATEGY

Supporting Education & Training and Human Resources

LOTTE E&C sees the competitiveness of our partners as a reflection of our own, which is why we offer tailored education and training programs that are shaped by their needs and feedback. The Company actively encourages its partners to engage in recruitment fairs to attract top talent and support the recognition of outstanding partners. Furthermore, we manage the “Green Jobs Shared Growth Fund,” providing reward points to eligible employees and companies that hire from partners qualified for shared growth loans. LOTTE E&C is dedicated to fostering mutual growth by fair trade and collaboration, ensuring our partners have access to exceptional human resources.

Performance Sharing System for Partners

LOTTE E&C is implementing key initiatives in alignment with our mid- to long-term vision for the continuous shared growth with our partners. Each month, through regular meetings of the Shared Growth Secretariat, we work to advance the direction of shared growth with our partners. In 2006, we pioneered the first performance sharing system in the construction industry, a program we have consistently upheld since its inception. Our commitment to innovation was recognized in 2011 when we were honored by the Minister of MOLIT at the “Construction Creativity and Innovation Contest.” In 2012, we signed an agreement with the Ministry of Knowledge Economy to expand the performance sharing system. We continue to develop various research and models to establish and enhance the performance sharing system. Since 2021, we have focused on cost reduction using innovative approaches such as altering construction methods and materials, improving quality, and shortening project timelines. We encourage these improvements through pre-set targets, the sharing of exemplary performance, and idea contests. LOTTE E&C is dedicated to collaborating with our partners to set a new standard for performance sharing within the construction industry.

Training Program Support

1,069
companies



Management Consulting Support

20
companies (KRW 24 million)



STRATEGY 3 BUILDING TRUST WITH PARTNERS

Regular Partner Meetings

LOTTE E&C conducted regular meetings with 39 partners across 7 major construction sectors, actively incorporating their feedback to strengthen trust and collaboration.

Partner Meetings by Construction Sector in 2023

(Unit: Companies)

Electrical Work	Reinforced Concrete Work	Mechanical Equipment Work	Earthworks	Interior Work	Structural Steel Work	Landscaping Work
4	8	7	5	5	5	4

Dispute Mediation Council

To address disputes arising from subcontracting transactions, LOTTE E&C operates the Dispute Mediation Council under the Shared Growth Secretariat. This council is dedicated to actively listening to the perspectives of our construction partners. By facilitating open dialogue, we are able to achieve mutually amicable and fair resolutions. In 2023, we successfully mediated disputes with seven of our partners.

Operating Cyber Ombudsman for Partner Feedback

We maintain a Cyber Ombudsman to collect fresh ideas from our partners, address requests for dispute resolution related to subcontracting, and receive reports on compliance or ethical management issues. We ensure that all feedback is handled with fairness and efficiency. We guarantee their anonymity, protecting them from any potential repercussions arising from their reports.

LOTTE E&C Cyber Ombudsman 

Surveying Our Best and Key Partners

The Company conducted a survey with our top and key partners to assess their satisfaction and gather suggestions for enhancing our partnerships and promoting shared growth. The feedback was overwhelmingly positive regarding our focus on a transaction policy centered on key partners, the expansion of our excellent partner network, and the strengthening of communication activities. Partners expressed a desire for more proactive engagement, including the operation of a Dispute Mediation Council. Inspired by this feedback, LOTTE E&C is committed to continuously refining and improving our systematic and practical partnership initiatives.

RISK MANAGEMENT

DEVELOPING AN ESG SELF-ASSESSMENT CHECKLIST FOR PARTNERS

In 2023, LOTTE E&C developed the “ESG Self-Assessment Checklist” for partners to align with “OECD Due Diligence Guidance for Responsible Business Conduct.” This checklist, designed to help our partners evaluate and enhance their ESG practices, covers five key areas. Drawing on the principles of the UN Global Compact and the LOTTE E&C Code of Conduct for Partners, the checklist encompasses four core areas and ten principles, serving as a self-assessment tool for partners to check their ESG performance and identify potential risks. The risks identified from this assessment will be used to create targeted and practical policies, guidelines, and support measures aimed at bolstering the ESG capabilities of our partners.

Checklist Indicators

Management

- Establishing ESG policies
- Compliance with ESG regulations
- Assessing ESG issues
- Worker participation
- Supply chain management
- Stakeholder communication



Human Rights

- Health and safety systems
- Health and safety training
- Enhancement of worker participation
- Working conditions
- Humane treatment
- Employee personal data protection
- Community engagement
- Product management



Labor

- Collective bargaining and negotiations
- Prevention of forced labor
- Prevention of child labor
- Prohibition of discrimination



Environment

- Preventive approach to environmental issues
- Pollution management and environmental protection
- Eco-friendly technologies



Anti-corruption

- Creation of an anti-corruption environment
- Assessment of anti-corruption risks
- Awareness improvement
- Anti-corruption procedures



Partner's ESG Self-Assessment

In 2024, the Company piloted an ESG self-assessment for our partners, which included 31 items and was conducted with 21 companies. The written survey identified nine major risk factors. We will offer targeted guidance and training on relevant laws and guidelines tailored to each risk area. Our goal is to enhance our partners' understanding of ESG management and provide actionable measures and support to effectively minimize risk impacts.

Number of Partners
Conducting ESG
Self-Assessment

21 companies

Key Risk Factors by Item for 2024

Management

- Supply chain and partner management systems
- Risk management systems for ESG issues

Labor

- Development of mechanisms and activities for collective bargaining and negotiations

Environment

- Preventive approach to environmental impacts
- Climate change response
- Eco-friendly technology capabilities
- Management of air pollutants

Anti-corruption

- Internal audit systems
- Risk assessment for anti-corruption risk prevention

RISK MANAGEMENT

IMPLEMENTING RISK MANAGEMENT ACTIVITIES

| Safety | Evaluation System for Partner Health and Safety Capabilities

LOTTE E&C has pioneered the construction industry's first ESG health and safety competency evaluation system for partners, aiming to enhance their health and safety management capabilities. In addition, we have established a collaborative framework to prevent serious industrial accidents. For key construction types like PC construction, earthwork, steel construction, and reinforced concrete, an initial evaluation hosted by Health and Safety Headquarters is mandatory for new partners during registration. After registration, LOTTE E&C conducts annual evaluations in conjunction with external specialized organizations for partners participating in bidding. We also conduct regular evaluations twice a year, led by site managers and safety managers, for all construction projects. To ensure objective and professional evaluations, a credit rating agency assesses four areas safety management, safety operations, safety investments, and safety performance across 19 criteria, classifying safety capabilities into 1 to 7 grades. Partners with poor ratings (grades 6 to 7) or those with three or more serious or general accidents are restricted from bidding. The top 5% of excellent partners receive priority contract review, single-sourced contract, labor support for safety managers, and awards and points for outstanding safety leaders to encourage active ESG practices. LOTTE E&C is proactively reducing the risk of serious accidents from the bidding stage and plans to expand the assessment to all construction partners moving forward.

Performance of Health and Safety Competency Evaluation System 2023

Expanded Evaluation Targets

Safety Competency Evaluation Targets

Added **6** types of work
(14 work types in total)

225 companies



| Safety | Health and Safety Training Support

To assist our partners in swiftly adapting to health and safety responsibilities and enhancing their on-site practices, LOTTE E&C offers direct health and safety training to managers upon their initial assignment to a project. Since 2022, we have created and distributed video content for partner health and safety training. We plan to further enhance training effectiveness by expanding support, including integrated training with Safety ON.

| Environment | Environmental Risk Management

For partners engaged in high-risk construction, we mandate an evaluation of significant negative environmental impacts by credit rating agencies. In 2023, there were no instances where partnerships were terminated due to such impacts.

| Raw Materials | Raw Materials Risk Management

To prevent construction interruptions and delays caused by supply issues of steel, cement, and ready-mixed concrete, essential raw materials for the construction industry, we are diversifying our sources of supply. As risk mitigation strategy of supply disruptions, we are strengthening our cooperative relationships with raw material suppliers and implementing strategic ordering based on site and seasonal demand.

| Ethics | Promoting an Ethical Management Culture

LOTTE E&C champions the prevention of unethical conduct and the enhancement of healthy supply chain culture by requiring partners to sign a commitment to ethical management when entering contracts. We integrate ethical management metrics into our regular partner evaluation system to promote ethical management culture across the supply chain. If unethical conduct by partners is detected during transactions with LOTTE E&C, we impose sanctions based on established criteria and deduct points during regular evaluations to ensure impartial supply chain management. Moreover, to nurture a fair culture, we regularly invite subcontracting law experts, including those from the Korea Fair Trade Commission, to provide special lectures for employees at our partner companies' sites.

| Human Rights | Prohibition of Forced and Child Labor

LOTTE E&C strictly prohibits all forms of forced and child labor, adhering to the minimum working age requirements set by local laws and international standards in our operational regions. We are committed to upholding international human rights principles and ensuring compliance with labor standards in the countries and areas where we operate, focusing on reasonable working hours and fair wages. According to our ESG self-assessment of 21 partners conducted in the first half of 2024, none of our partners exhibit a significant risk of child or forced labor.

RISK MANAGEMENT

SELECTING AND EVALUATING PARTNERS IN A FAIR MANNER

LOTTE E&C categorizes its supply chain into subcontracting partners who carry out subcontracted construction and services for projects, and procurement partners who supply general construction and building materials and specialized equipment. We ensure a transparent and fair selection process by adhering to our partner selection and operation practices. Selection criteria, procedures, and evaluation outcomes are disclosed on our partner portal website. Our selection process is directly related to the transactions entrusted to us, and we do not unjustly favor either existing or new partners. If a partner is not selected, we provide a written notification of the reasons and allow for re-evaluation upon appeal. Furthermore, for partners with a year of trading history, we assess various business indicators, including construction capabilities, credit ratings, and sales performance, as well as site-specific factors such as construction quality and safety management. Based on these evaluations, we offer benefits such as expanded trading opportunities and rewards.

LOTTE E&C Partner Portal Website [🔗](#)

Partner Selection Details and Evaluation Criteria

Partner Selection Announcements

Informing selection criteria and procedures

- 30 days prior to expiration of partner registration or registration (including renewal registration)
- Disclosed on the Partner Portal website for at least 15 days prior to the start of the partner selection process

When there are changes in selection criteria

- Written (including electronic) individual notice 45 days prior to partners eligible for renewal

Partner Selection Results

Informing partner selection results

- Individual notification of the results in writing (including electronic) within 15 days from the date of partner selection
- Immediate re-registration measures needed if the registration is canceled due to reasons attributable to LOTTE E&C

Partner Selection Evaluation Items

- ✓ Construction capability and performance
- ✓ Sales
- ✓ Credit rating and cash flow, etc.

SELECTING OUTSTANDING PARTNERS

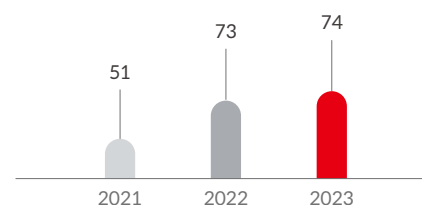
To enhance the competitiveness of our partners, we classify them into categories of outstanding, key, and general partners based on transaction duration, transaction volume, and results from regular assessments. We recognize the top performers with awards such as the Grand Prize or Best Partner accolade. Top tier partners are given opportunities for preferential bidding, have their contract performance bonds waived or reduced, and receive practical benefits, including training and management support. Since 2021, LOTTE E&C has been increasing the scope of rewards for exceptional partners to grow mutually. In 2023, we honored 59 outstanding partners, 14 small but strong engineering partners, and 1 safety partner, totaling 74 companies. We remain committed to identifying and collaborating with competitive partners to support their development.

Reward System for Outstanding Partners

Outstanding partner awards	Presentation of awards and signing of shared growth agreements
Expanded contract opportunities	Priority bidding opportunities
Enhanced interaction	Support advisory group activities of outstanding partner (LOTTE Partners)
Waiver or reduction of contract performance bonds based on number of awards	Waiver or reduction of contract performance bonds based on number of outstanding partner awards
Training and management support	Domestic and international training and site visits for CEOs of outstanding partners, Priority support for employee training and management consulting in specialized institutions
Financial support	Priority selection for direct loans

Outstanding Partner Overview

(Unit: Companies)




RISK MANAGEMENT

OPERATING A WIN-WIN CONTRACTING FRAMEWORK

LOTTE E&C adheres to the four principles of fair trade to prevent abuse of superior bargaining power in dealings with SMEs and to ensure that SME interests are equitably represented. Prospective new partners seeking to collaborate with LOTTE E&C can submit their proposals directly via the partner portal website. Adding to that regular discussions with partners are facilitated by using the Partner Relationship Management (PRM) system, fostering company culture of transparency and mutual growth.


4 Practices for Fair Trade

Contract Signing Practices for Win-Win Cooperation Among Large, Medium and Small Businesses

Read the full story 


LOTTE E&C provides SMEs with an environment where their interests can be properly reflected in the contract and prevents the company from abusing superior bargaining power in transactions with SMEs, undermining the freedom of contract of the SMEs. To this end, we outline practice guidelines on signing contracts, thereby contributing to coordinating fair trade activities.

Practice guideline for selection and management of partner companies

Read the full story 


LOTTE E&C aims to contribute to fair transactions in subcontracting by enhancing transparency and fairness in selecting and operating partners, and to set general practice guideline to prevent violation of Fair Transactions in Subcontracting Act.

Installation and operation of Internal Deliberation Committee for contract with subcontractors

Read the full story 

LOTTE E&C aims to contribute to the establishment of a fair subcontracting order by enabling LOTTE E&C to deliberate on the fairness and legality of transactions in subcontracting above a certain size on its own before or after the fact, and to present general points to prevent violations of fair transactions in subcontracting act.

Practice guideline for issuance and preservation of document

Read the full story 

LOTTE E&C aims contribute to the establishment of a fair subcontracting culture by specifying matters that the company must comply with or pursue in relation to the issuance and preservation of documents in the course of concluding subcontracting contracts and transactions. This ensures that the company and the subcontractor are clearly aware of the matters related to the issuance of documents under the Act on Fair Subcontracting Transactions, and facilitates the exercise of rights and the performance obligation thereunder.

METRICS & TARGETS

SETTING PERFORMANCE METRICS FOR SHARED GROWTH WITH PARTNERS

LOTTE E&C promotes sustainable growth within our supply chain by developing an ESG management framework through shared growth with our partners, with the goal of extending ESG principles throughout the value chain. To achieve this, we have established and monitored performance metrics for shared growth with partners. On top of that, we have developed and created an internal system that integrates shared growth achievements into the evaluations of procurement executives.

Key Performance Indicators

Number of suppliers
evaluated for social impact

Procurement spending
with local suppliers

Supply Chain Risk
Management

EXPANDING ESG RISK ASSESSMENT AND DUE DILIGENCE FOR PARTNER COMPANIES

LOTTE E&C is consistently enhancing the ESG assessment criteria of our partners to align with global sustainable standards. In 2024, we have implemented a written evaluation to proactively identify potential and existing risks within our supply chain. Moving forward, the Company plans to broaden our ESG risk assessments and due diligence processes, taking into account the size of our partners and their adherence to key performance indicators. Ultimately, we will integrate the findings from these assessments into our supply chain management strategies to further develop a sustainable supply chain.

Expanding ESG Risk Assessment and Due Diligence for Partner Companies

STEP 1

Pre-identification and documentation

Proactively uncover potential risks within the supply chain and carry out self-assessments.

STEP 2

On-site inspections

Undertake thorough due diligence for partners where ESG risks are revealed, guided by the insights from our detailed written evaluations.

STEP 3

Integration with supply chain management strategy

Enhance and harmonize strategies and align activities to prevent ESG risks on the supply chain and reduce their impacts

ESG PERFORMANCE BOOK

LOTTE E&C is dedicated to fostering sustainable value across the realms of environment, society, and governance, aspiring to be a company that flourishes in harmony with society, nurturing growth and progress for all.

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PLANET

Aiming to “preserve the global environment and foster new growth opportunities,” LOTTE E&C focuses on acquiring, developing, and investing in green technologies in the environmental energy sector. We enhance our business sustainability by building green infrastructure and expanding R&D efforts.

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STRENGTHENING NEW GROWTH ENGINES

MINIMIZING ENVIRONMENTAL IMPACT

ENVIRONMENTAL MANAGEMENT SYSTEM

LOTTE E&C first obtained ISO 14001 certification for its environmental management system in 1996 and has maintained it through annual renewal audits. To enhance environmental and quality management across the entire company, the Quality Management Team of the Technology Research Institute, which is dedicated to environmental efforts, oversees the company’s environmental work. Moreover, we have integrated our environmental and quality management policies into a single Quality Environmental Management Policy, which is shared and practiced company-wide. In support of the national goal of carbon neutrality by 2050, we are implementing specific tasks outlined in our “2040 Carbon Neutrality Roadmap.” Looking ahead, we plan to achieve carbon neutrality in stages, adapting to internal and external changes. This includes converting business vehicles to green alternatives and installing solar power generation facilities at site offices.

Promotion of Environmental Management

Objectives

Establish ESG Management

- Efficiently manage environmental data
- Discover new items that can reduce GHG and energy use
- Conduct campaigns to spread a company-wide green culture

Expand Participation in Eco-friendly Certifications and Programs

- Maintain ISO 14001 certification
- Implement eco-friendly procurement

Achieve Zero Environmental Accidents and Legal Violations

- Conduct an efficient environment inspection on worksites
- Strengthen training programs for working-level employees in charge of environment issues
- Response to environmental issues in the construction industry

Implementation System

PLAN

- Determine the environmental impacts
- Evaluate environmental impact by item
- Set environmental goals
- Establish environmental improvement plans

ACTION

- Review by the management
- Improve nonconformities and the level of environment management
- Communicate with stakeholders

DO

- Delineate responsibilities within the organization
- Provide environment-related training
- Establish a daily work system related to environment management
- Build an emergency response measure

RESTART

- Conduct audits and measurements
- Manage environment-related documents
- Conduct environmental inspection

ISO 14001 Environmental Management System

Management Policy

Improve environmental management through continuous communication with stakeholders and management review

Forge green construction environment by efficiently using energy and reducing energy use

Execute 2040 Carbon Neutrality Roadmap for the transition to a carbon neutral society

MINIMIZING ENVIRONMENTAL IMPACT

ENVIRONMENTAL GOVERNANCE

To promote systematic environmental management, LOTTE E&C delegates overall ESG-related responsibilities to the Strategic Planning Division, while Technology Research Institute oversees environmental management and GHG emissions control. We perform on-site inspections and provide training for environmental personnel to ensure compliance with environmental laws and regulations. What's more, we uphold environmental management policies by developing green technologies and implementing green purchasing practices.

Environmental Management System (ISO 14001) Certification 



ENVIRONMENTAL MANAGEMENT CHARTER

LOTTE E&C is committed to adhering to environmental laws, implementing a strong environmental management system, and minimizing pollutants in line with the LOTTE Group's Environmental Management Charter. This Charter is based on domestic laws, including the "Constitution of the Republic of Korea", the "Framework Act on Environmental Policy", and the "Framework Act on Carbon Neutrality and Green Growth to Cope with Climate Crisis", as well as international agreements such as the "UN Framework Convention on Climate Change" and the "Convention on Biological Diversity." At LOTTE E&C, all executives and employees are committed to adhering to this charter, integrating environmental stewardship into all management activities and business operations.

LOTTE Group Environmental Management Charter 

ENVIRONMENTAL MANAGEMENT POLICY

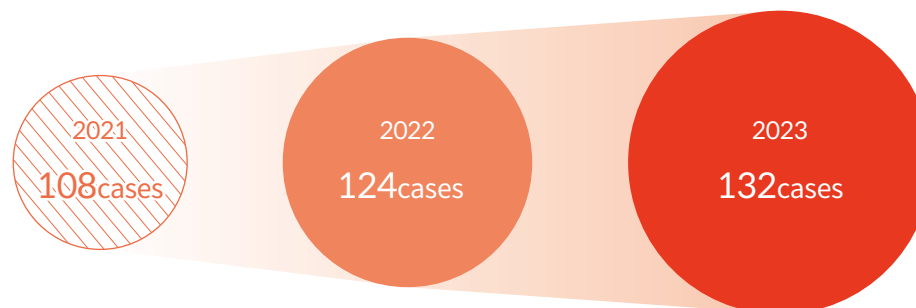
LOTTE E&C is enhancing its practices by integrating and implementing environmental and quality management policies, ensuring they are well-publicized throughout the company. To make construction sites more eco-friendly the Company operates a green procurement system and is increasing the purchase of eco-friendly certified products. We also work to reduce fine (fugitive) dust by minimizing the use of outdated construction machinery and equipment. Additionally, we have developed and are executing a GHG monitoring and reduction plan in line with the "2040 Carbon Neutrality Roadmap." Our ongoing efforts include activities such as replacing supplementary fuels and temporary lighting to further reduce GHG emissions.

EXPANDING GREEN BUILDING CERTIFICATION

LOTTE E&C is extending its environmental management system (ISO 14001) and green building certifications to make eco-friendly structures, reduce carbon emissions, and integrate solar facilities across diverse projects.

Cumulative Case of Green Building Certifications

(Unit: Case)



Examples of Eco-Friendly Apartments Created by Expanding Green Building Certification

Green Building Certification
Excellent rating

Building Energy Efficiency
1+ Rating to be applied

Daylighting Louver System
To be Applied to all units



Icheon Lotte Castle Central Ferraz Sky

MINIMIZING ENVIRONMENTAL IMPACT

GREEN PROCUREMENT

Since 2009 when we signed the “Voluntary Agreement for Green Procurement in the Industry”, LOTTE E&C has been committed to green purchasing throughout all project phases. In 2023, the Company procured KRW 67.1 billion worth of green construction materials, establishing a system for purchasing eco-friendly materials and continuing to seek out suppliers of certified environmentally preferable products.

Green Procurement Overview

(Unit: KRW million)

Category	2021	2022	2023
Total Purchases of Eco-Friendly Certified Products	55,409	58,558	67,125
HB Mark	1,966	12,293	7,916
ECO Mark	26,756	6,824	34,449
High-efficiency energy equipment	5,401	3,845	3,792
GR Mark	2,209	1,023	1,475
Energy Efficiency Rating 1 and 2	18,946	34,573	19,493
Saving energy	130	0	0

Total Purchases of Eco-Friendly Certified Products

Year-on-Year Change Rate

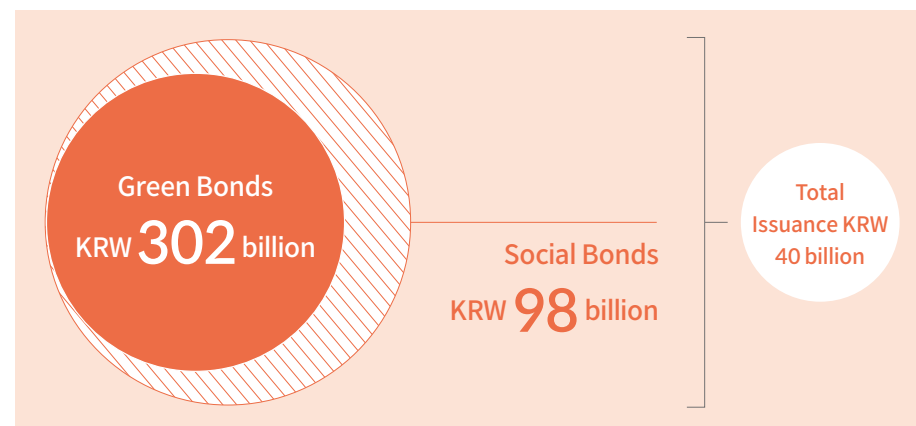
14.63% Increase



ISSUING SUSTAINABLE BONDS

In September 2021, LOTTE E&C issued KRW 40 billion in sustainable bonds and subsequently underwent a post-issuance review by a credit rating agency in August 2022. Of these sustainable bonds, KRW 30.2 billion was dedicated to green bonds for environmental enhancement projects, while KRW 9.8 billion was allocated to social bonds. The entire amount raised was invested in carefully selected projects anticipated to deliver significant positive environmental and social impacts. Moreover, our procedures for project evaluation and selection, fund management, and disclosure were deemed outstanding, earning us the highest certification rating (ST1).

Sustainable Bond Allocation



COMPLYING WITH ENVIRONMENTAL REGULATIONS

LOTTE E&C complies with domestic environmental regulations through ongoing monitoring and thorough inspections. We actively communicate regulatory updates to our sites and diligently identify and address compliance risks during on-site evaluations. In 2023, we conducted assessments across 37 sites and provided initial support to 30 of these locations, significantly expanding our inspection and support efforts from the previous year. As a result, we proudly report no environmental regulation violations under our company's name for 2023.

EMBEDDING ENVIRONMENTAL MANAGEMENT

ASSESSING AND MANAGING ENVIRONMENTAL RISK

LOTTE E&C requires that every site develop and manage an environmental management plan tailored to the local environment and specific construction details from the onset of each project. We ensure that facilities are installed and operated to minimize environmental pollution, according to these plans and relevant rental reports. The Company regularly modifies our environmental management plan to reflect changes in processes and evolving needs. Additionally, we enforce site-specific environmental policies and standards to reduce impacts such as air, noise, vibration, water quality, and waste. Mitigation measures are developed and implemented based on thorough environmental risk assessments. In particular, we designate site-specific environmental managers to oversee risks and conduct headquarters-led inspections at the outset of construction. This approach strengthens our on-site environmental management capabilities.

ASSESSING ENVIRONMENTAL PERFORMANCE

LOTTE E&C carries out environmental assessments through the Quality Management Team of the Technology Research Institute to evaluate site performance and identify areas for improvement. During regular inspections, we evaluate each site's environmental management status and incorporate it into the key performance indicators (KPIs) for each department. We also aggregate points from annual external awards and any environmental law violations to determine the site's Balanced Score card (BSC¹⁾ evaluation. By incorporating BSC evaluation results into employee performance reviews, which are linked to compensation, we promote proactive environmental management. Each year, we recognize the top two sites as "Excellent Environmental Management Sites" for their outstanding efforts. To encourage independent environmental improvements, the Company participates in the annual Construction Environment Best Practice Contest organized by the Construction Environment Association. Winning in this contest contributes additional points to the BSC evaluation.

1) Balanced Score Card: A performance management system that derives performance indicators from four perspectives of financial, customer, internal processes, and learning and growth to manage and evaluate an organization's vision and strategic goals.

MANAGING ENVIRONMENTAL DATA

The Company oversees crucial environmental data, including waste, GHG emissions, and water usage, through our in-house ERP system to make sure reliable and efficient management across multiple sites. We supply GHG and water usage guidelines to sites, with site managers entering key environmental data into the system on a monthly basis to enhance accuracy. Moreover, we have implemented an environmental management status registration system to track the hiring and installation of environmental facilities. To ensure objectivity in our environmental data management, we conduct biannual environmental management inspections organized by Lotte Group.

ENVIRONMENTAL EDUCATION AND TRAINING FOR EMPLOYEES

Each year, LOTTE E&C enhances the environmental management capabilities of on-site practitioners through targeted education and training (E&T). The training, conducted virtually, covered a range of topics including environmental management practices, updates to environmental laws and regulations, precautions for operating environmental facilities, recent violations of environmental laws, and the operation of the environmental management system. In 2023, 115 participants from 112 sites, including environmental practitioners, completed the training. We plan to extend this training to site employees, partner company staff, and construction workers, tailored to each site's schedule, to prevent environmental pollution and protect local communities.

Employee Participation in Environmental Education and Training

(Unit: Person, hour)

Category	2021	2022	2023
Number of Participants	93	123	115
Total Training Hours	279	369	345
Training Hours per Person	3	3	3

RESOURCE CIRCULATION

WASTE MANAGEMENT

LOTTE E&C manages the waste from all construction sites in compliance with the Construction Waste Act and established management standards. The Company implements meticulous planning to minimize construction waste and has enhanced waste management by setting up dedicated storage facilities at construction sites for better separation, sorting, and storage. Recyclable waste that has been separated is processed into recycled aggregates and other materials through specialized treatment companies. We enter and monitor data on waste types, quantities, and treatment methods in our internal system and the Allbaro system to manage waste in real time each month, trying to reduce overall waste emissions through these efforts.

Waste Generation at Domestic Sites

(Unit: M/T (Metric ton), %)

Category	2021	2022	2023
Total waste generation	589,348	629,625	578,386
Total non-hazardous waste disposed	2,819	491	232
Total non-hazardous waste landfilled	1,915	8	7
Percentage of facilities disclosing waste information	100	100	100

Waste Recycling Rate in 2023

99.96%



RAW AND SUBSIDIARY MATERIAL MANAGEMENT

LOTTE E&C adjusts the use of raw and subsidiary materials based on the quantities specified in the design and the progress of the construction process. We ensure that the quantity of materials used reflects the final design specifications, incorporating any design changes that may arise during construction.

OIL AND DESIGNATED WASTE MANAGEMENT

LOTTE E&C has set up dedicated storage bins to mitigate environmental impacts from spills of waste oil, waste paint, and other designated wastes. The bins are equipped with an impermeable lining at the bottom to prevent leaks, and the top is covered with absorbent or adsorbent fabric to effectively manage any damage from potential waste oil spills.



On-site Fuel Storage Facility

ENVIRONMENTAL LOAD MANAGEMENT

WATER MANAGEMENT

Recognizing water as a finite resource, LOTTE E&C is committed to responsible water management by setting targets for reducing water usage at all stages of our operations—water intake, consumption, and discharge. The Company provides water input guidelines to our construction sites to ensure effective monitoring of water intake and usage. To further reduce water consumption, we responsibly recycle groundwater generated during construction for site washing, following proper declaration procedures. We will continue to raise awareness about water usage and seek effective measures for managing water resources.

WASTEWATER DISCHARGE MANAGEMENT

While LOTTE E&C does not directly operate wastewater treatment plants, it ensures compliance with legal standards for wastewater discharge permits. Specifically, the Company installs and runs wastewater treatment facilities designed to handle high concentrations of alkalinity (pH) and suspended solids (SS) generated during tunnel construction. We are doing our best to prevent water pollution by sizing treatment installations according to wastewater volume, deploying skilled technicians, and outsourcing the management of these facilities to specialized companies.

WATER RESOURCE MANAGEMENT

LOTTE E&C does not operate large-scale water storage facilities at our business sites, as water is supplied through municipal utilities. While we are not currently assessing specific water-related risks and opportunities, we are diligent in managing water use during construction. We ensure that rainwater and groundwater do not cause soil discharge exceeding regulatory standards. Additionally, we handle wastewater through the installation of purification systems and conduct regular inspections and maintenance to ensure compliance.

AIR POLLUTANT MANAGEMENT

In accordance with environmental regulations aimed at mitigating harmful pollutants, LOTTE E&C undertakes activities to reduce dust emissions, which are directly released into the air without passing through designated outlets during demolition and excavation work. The Company has installed wheel wash stations¹⁾ at site entrances and is operating dust covers, dust nets, sprinkler systems, and water trucks. Since 2019, in response to high levels of fine particulate matter, we have entered into a “Voluntary Agreement on Dust Reduction” with the Ministry of Environment and are actively implementing the terms of this agreement.

¹⁾ A facility used to wash off dust or sand from the wheels of vehicles entering and exiting construction sites.

2023 Achievement in Reducing Fugitive Dust

Excellent Construction Site Award for Voluntary Fugitive Dust Reduction

LOTTE E&C has been proudly recognized by the Seoul Metropolitan Government as an exemplary construction firm for its voluntary efforts in reducing fine dust. Our efforts were celebrated as part of the “Seoul Eco-friendly Construction Site Operation Agreement” where 12 construction companies and 101 sites were evaluated for their commitment and adherence. The selection was made after a thorough review by the Fair Deliberation Committee of the Seoul Metropolitan Government. We will continue to take part in minimizing fugitive dust at our sites and are committed to actively advance the vision of “Seoul Eco-Friendly Construction Sites.”



NOISE MANAGEMENT

LOTTE E&C is making continuous effort to minimize the impact of noise pollution by installing portable air barriers when using loud-noise equipment and machinery. In urban construction sites, the Company installs noise-monitoring electronic boards on sound barriers to ensure that noise levels do not exceed legal limits. In addition, we hold community briefings before starting construction to inform residents about potential noise and vibration and to seek their understanding. If significant noise and vibration impacts are anticipated, we take measures such as changing construction methods to minimize disruption and protect the rights of local residents before proceeding with the work.

BIODIVERSITY MANAGEMENT

At LOTTE E&C, we are dedicated to minimizing the impact of our operations on the ecosystem. We proactively predict both the direct and indirect effects on the natural environment, such as changes in terrain and disruptions to flora and fauna, as well as living conditions, including air and water quality, noise, and vibration. Based on the results of environmental impact assessments, we develop comprehensive response plans to protect biodiversity.

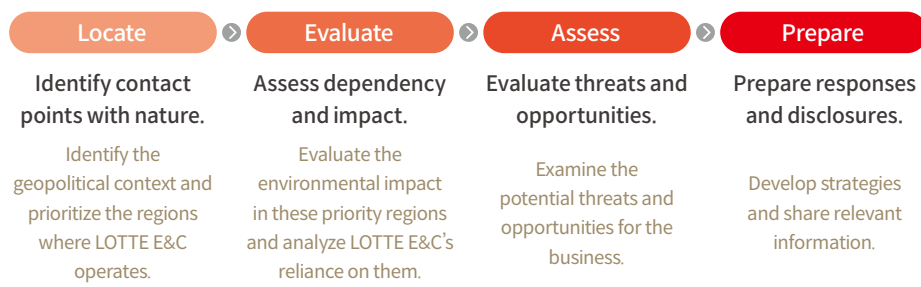
BIODIVERSITY MANAGEMENT GOVERNANCE

LOTTE E&C is fostering strong collaboration among its working teams to effectively control biodiversity-related risks and opportunities. The Sustainability Management Secretariat consistently communicates biodiversity initiatives and developments with each business division. What's more the company reports on the status of legally protected species and details protection efforts at major business sites through its Sustainability Report.

DEVELOPING A BIODIVERSITY STRATEGY

As LOTTE E&C acknowledges the crucial role of protecting and restoring biodiversity, we are enhancing our preventive measures by preemptively investigating and addressing the potential negative environmental impacts of our business on biodiversity and natural capital. In 2023, in alignment with the Taskforce on Nature-related Financial Disclosures (TNFD) and GRI 101 (Biodiversity 2024), we evaluated and managed the effects of our business activities on biodiversity and natural capital through four key areas: governance, strategy, risk management, and indicators and targets. Moreover, we have further advanced our biodiversity management by applying the Locate, Evaluate, Assess and Prepare (LEAP) approach in our decision-making process, ensuring comprehensive consideration of these four areas.

LEAP Approach to Biodiversity Management



BIODIVERSITY ENVIRONMENTAL IMPACT ASSESSMENTS

LOTTE E&C performs environmental impact assessments to identify biodiversity risks before commencing projects. Based on these assessments, we adjust our business plans and implement specific measures to safeguard biodiversity, such as preserving habitats and establishing migration pathways. In particular, the Company highlights key areas which require biodiversity protection within project sites and carries out risk evaluations, taking into account the potential ecosystem impacts in those regions.

Environmental Impact Assessment Process

Category	Preliminary Review	Environmental Impact Assessment	Monitoring
Business Owner	- Establish business plan- Prepare Environmental Impact Assessment (EIA) documents.	- Collect opinions from residents and relevant organizations. - Submit EIA report.	- Notify consultation results.
LOTTE E&C	- Understand project outline, including business type and development area.	- Describe opinions on biodiversity and natural capital.	- Monitor issues related to biodiversity and natural capital.

BIODIVERSITY PROTECTION ACTIVITIES

LOTTE E&C meticulously monitors biodiversity risks that may emerge during the environmental impact assessment stage of our projects. In 2023, guided by these monitoring results, we enacted protection measures for around 49 protected species. The findings of our environmental impact surveys and our efforts of biodiversity conservation are openly reported through the Environmental Impact Assessment Information System.

BIODIVERSITY MANAGEMENT

Biodiversity Protection Activities

Site name	Legally Protected Species				
	Birds	Mammals	Fish	Amphibians/Reptiles	Plants
Hwado-Yangpyeong Section	- Whooper Swan: Endangered (Level 2), Natural Monument - Mandarin Duck, Kestrel: Natural Monuments	- Otter: Endangered (Level 1), Natural Monument - Marten, Wildcat: Endangered (Level 2)	- Stone Loach, Oriental White-backed Vole, Bitterling, Amur Catfish: Total 11 families and 30 species	- Kaloula borealis, Korean Golden Frog Korean Turtle: Endangered (Level 2)	-
Seobu Inland Expressway	-	-	-	- Suwon Tree Frog: Endangered (Level 1) - Korean Golden Frog: Endangered (Level 2)	-
Gwangju Urban Rail Section 2-1	- Whooper Swan: Endangered (Level 2), Natural Monument - Mandarin Duck, Kestrel, Oriental Scops Owl: Natural Monuments - Black-headed Gull, Osprey: Endangered (Level 2)	- Otter: Endangered (Level 1), Natural Monument - Wildcat: Endangered (Level 2)	-	-	- Invasive Species: Chinese Bittercress, Pigweed, American Silverweed, Thorn Lettuce, Chinese Nettle, Water Smartweed, Hairy Water Smartweed
Saemangeum-Jeonju Section 2	- Spoon-billed Sandpiper, Peregrine Falcon: Endangered (Level 1), Natural Monument - Whooper Swan, Black-faced Spoonbill, Eurasian Kestrel, Grey-faced Buzzard, Black-headed Gull: Endangered (Level 2), Natural Monument - Greater White-fronted Goose, Baikal Teal: Endangered (Level 2) - Common Kestrel, Mandarin Duck: Natural Monument	- Otter: Endangered (Level 1), Natural Monument - Wildcat: Endangered (Level 2)	-	-	-
Sejong-Anseong Section 3	- Mandarin Duck, Kestrel: Natural Monuments	- Wildcat: Endangered (Level 2)	-	-	-
Sikman-Sasang (Daejeo Bridge)	- Peregrine Falcon, White-tailed Eagle, Black Vulture: Endangered (Level 1), Natural Monument - Black-faced Spoonbill, Whooper Swan, Eurasian Hobby, Eurasian Kestrel, Grey-faced Buzzard, Accipiter soloensis, Booted Eagle: Endangered (Level 2), Natural Monument - Greater White-fronted Goose, Black Kite, Baikal Teal, Long-legged Buzzard, Water Eagle, Honey Buzzard, Spotted Redshank: Endangered (Level 2) - Common Kestrel, Frogmouth: Natural Monument	- Otter: Endangered (Level 1), Natural Monument - Wildcat: Endangered (Level 2)	- Swan Midge: Endangered (Level 2) - Sharp-nosed Symphyla: Endangered (Level 1)	- Kaloula borealis: Endangered (Level 2) - Giant Dragonfly: Endangered (Level 2)	- Water Lotus: Endangered (Level 2) - Korean Wild Chive: Endangered (Level 2) - Korean Pseudophoenix: Endangered (Level 2)
Gimpo-Paju Section 1	-	-	-	- Suwon Tree Frog: Endangered (Level 1) - Korean Golden Frog: Endangered (Level 2)	-
Aphea-Hwawon Section 1	- Black-faced Spoonbill: Endangered (Level 2), Natural Monument - Water Eagle: Endangered (Level 2) - Kestrel: Natural Monument	- Otter: Endangered (Level 1), Natural Monument - Wildcat: Endangered (Level 2)	-	- Kaloula borealis: Endangered (Level 2)	- Sticky Seedpod: Endangered (Level 2)
Jinju District	-	- Otter: Endangered (Level 1), Natural Monument - Wildcat: Endangered (Level 2)	- Kestrel: Natural Monument	-	-
Asan-Cheonan Section 2	-	-	-	- Korean Golden Frog: Endangered (Level 2)	-
Protection Activities¹⁾	<p>[Birds] Develop construction plans considering the migratory bird season (November to February of the following year) / Establish a monitoring committee including ornithologists and citizen groups / Install sound-absorbing noise barriers to prevent bird-window collisions / Use cutoff street lighting fixtures / Provide bird stopover habitats (e.g. floating nest platforms, perches).</p> <p>[Amphibians and Reptiles] Specify detailed surveys and monitoring / Relocate to and monitor alternative habitats.</p> <p>[Mammals] Create biotopes and improving wildlife habitats / Plan wildlife corridors to minimize roadkill / Install catch fences and relocation fences / Monitor legally protected species / Set up protection signage / Install guiding fences and water escape structures.</p> <p>[Fish] Install turbidity barriers / Set up ecological ditches and vegetated channels.</p> <p>[Plants] Remove invasive plant species.</p>				

1) Includes TBD activities.

STRENGTHENING NEW GROWTH ENGINES

LOTTE E&C R&D ORGANIZATION

LOTTE E&C has been continuously advancing eco-friendly research and development to achieve carbon neutrality and enhance our competitive edge in environmental energy solutions. To drive innovation and diversify our business portfolio, we have established a dedicated team within the Technology Research Institute focused on researching and developing cutting-edge future technologies. Our goal is to build a sustainable future for the construction industry by integrating eco-friendly technologies into our environmental infrastructure and localizing advanced technologies.

LOTTE E&C R&D Organization



Technology Research Institute's Strategic Organization Chart

Objectives

A Year of Re-emergence through Quality Management and Improvement of Management System

Improving the R&D System through Digital Qualification of Work and Discovery of Future Businesses

Detailed Tasks

Swifter on-site ENG and strengthened execution

R&D strategy to secure technological competitiveness

Improve quality & boost customer satisfaction

Detailed Strategy

Support for entering technology-linked businesses

- BIM
- PC method (Precast Concrete)
- Modular construction

Synergy with the Group's new growing businesses

- Develop CCUS & Hydrogen Energy Technology
- Participate in mobility (UAM) technology development and demonstration projects
- Develop green remodeling technology

Development of customer-friendly technology (CFS)

- Advance noise reduction technology
- Introduce clean housing technology (water/air quality)
- Develop specialized products for apartment buildings

Strengthen risk management in difficult work sites

- Pre ENG, centralization
- Eliminate technical risk in remodeling site
- Comprehensively support ENG for overseas sites

Secure technologies for future markets

- Smart technology R&D
- Green Tech (ZEB, environmentally friendly materials)

Strengthen company-wide quality & environmental activities

- Strengthen quality & environmental management capabilities
- Advance operating system
- Strengthen risk prevention activities

R&D Expenses
2,442 million KRW

R&D Target

Securing R&D personnel

STRENGTHENING NEW GROWTH ENGINES

GREEN PROJECTS

To reach our carbon neutrality goal by 2040, LOTTE E&C established the Eco-Energy Team within the Technology Research Institute. This specialized research organization is dedicated to developing green technologies. The Company is actively developing innovative solutions to meet zero-energy building standards and support our carbon neutrality objectives. Our commitment includes securing patents and acquiring certifications for green technologies. In 2020, we achieved significant progress with advancements in wastewater treatment systems, biogas production systems using IoT platforms, and dust removal technologies. In 2021, we introduced organic waste treatment devices and methods, as well as the "TIFUS method", a dry exterior insulation technology that eliminates thermal bridges using truss insulation frames. In 2022, the Company focused on creating a resonant mass damper structure to reduce floor impact noise and evaluating the safety of AI mudguard facilities to advance its green technology initiatives for eco-friendly projects.

Green Patents Overview in 2023

- Tunnel dust removal device
- Rotary insert clips and drywall stud structure for thermal bridge reduction
- Indoor smart farm and control method utilizing high-concentration CO₂
- Additive for enhancing the durability of concrete using eco-friendly binders and eco-friendly concrete incorporating this additive
- Hydraulic-setting n-cyanide ester-based polymer resins and hybrid powders for semi-fire-resistant eco-friendly flooring composition

Three-Year Green Technology Investment Goals¹⁾

(Unit: KRW 10,000)



1) Sum of pure research costs and research personnel expenses

GREEN TECH AREAS

Highly Insulating Drywall Systems

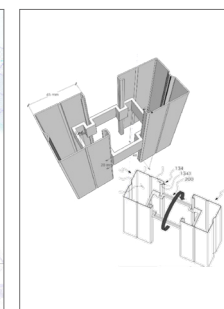
In order to ensure the stability of high-rise buildings, lightweight walls are crucial. LOTTE E&C has designed a high-insulation drywall system that boosts energy efficiency while enhancing building stability. Since 2020, LOTTE E&C has engaged in an energy technology development project led by the Ministry of Trade, Industry, and Energy. By 2023, the Company has secured two patents: one for a thermal bridge reduction structure and another for an stud spacing clip. Our system has passed fire resistance and horizontal load resistance tests and has achieved Class 1 sound insulation performance. In the future, LOTTE E&C aims to replace existing lightweight drywall sections exposed to the outside with our high-insulation drywall system, reducing energy losses and improving indoor comfort.

The effectiveness of high-insulation drywall systems

- Reduced thermal bridging by applying the stud spacing insert clips
- Increased wall insulation by more than 20% compared to traditional drywall, preventing condensation and mold, and enhancing building energy efficiency



Patent Registration Certificate



Structural Concept Diagram

Developing CO₂-reactive curing cement

As part of a government-funded project, Lotte E&C is developing a technology designed to cut CO₂ emissions by approximately 70% compared to traditional Portland cement. The research aimed to develop CO₂ reaction-curing cement and incorporate it into secondary products such as bricks, blocks, and precast concrete products. Traditional Portland cement is derived from limestone with over 75% CaCO₃ and less than 10% SiO₂. During the calcination process at around 1,400°C, significant amounts of CO₂ are released. In contrast, the limestone for carbon dioxide reaction-curing cement contains about 50% CaCO₃ and is processed at around 1,200°C. This approach decreases the need for fossil fuels during combustion. By leveraging these characteristics, we are developing a cement that reacts to CO₂ instead of water, even with the reduced heating temperature of 1,200°C.

STRENGTHENING NEW GROWTH ENGINES

GREEN TECH AREAS

Developing a Carbon-reducing, Green Blended Cement

Cement, the second most used material in the construction industry after water, generates 0.94 kg of CO₂ for every kilogram produced. Given its significant carbon footprint, LOTTE E&C is actively researching ways to reduce cement-related carbon emissions. The green, carbon-reducing cement developed by LOTTE E&C integrates slag from iron production. This innovation cuts cement usage by 95% and reduces CO₂ emissions by 90% compared to conventional Portland cement. As of March 2023, the Company secured K-Mark certification and registered two patents¹⁾ for this technology and are now seeking green technology certification. Starting in 2024, we plan to pilot this advanced eco-friendly cement in real-world applications and gradually expand its use. Our goal is to integrate it into eco-friendly construction projects and services, including green building certifications.

Comparison of Human Health Characteristics by Cement Type

(Unit: CTUh)



Comparison of Carbon Footprint by Cement Type

(Unit: kgCO₂)

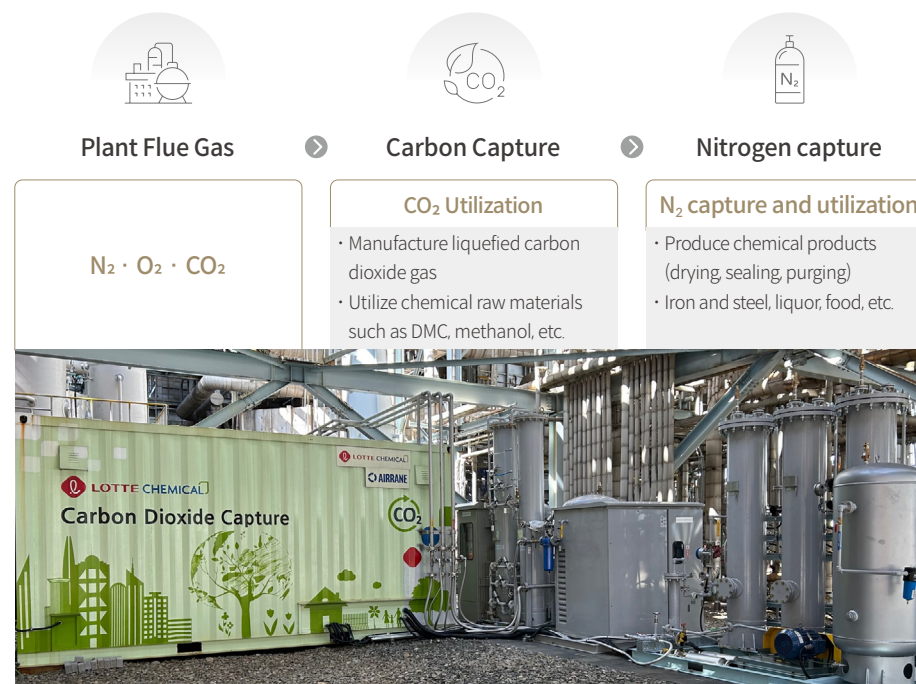


1) Products with 5% and 50% of conventional Portland cement, respectively

HYDROGEN CCUS SECTOR

High-purity Nitrogen Produced by Utilizing Carbon Capture Byproducts

To develop carbon capture technology and enhance future business competitiveness, LOTTE E&C is collaborating with Lotte Chemical to develop a method for producing high-purity nitrogen from flue gas generated by carbon capture facilities. In collaboration with Lotte Chemical, we have filed a patent application and executed a pilot study to perfect a process that generates 99.999% pure nitrogen from carbon capture flue gas. As this technology produces high-purity nitrogen with reduced energy usage and lower costs, it could potentially boost the financial feasibility of carbon capture projects when integrated with carbon capture systems. We try to optimize the growth of carbon capture facilities and pursue carbon neutrality through the successful commercialization of this cutting-edge technology.



CCU Plant Demonstration Study

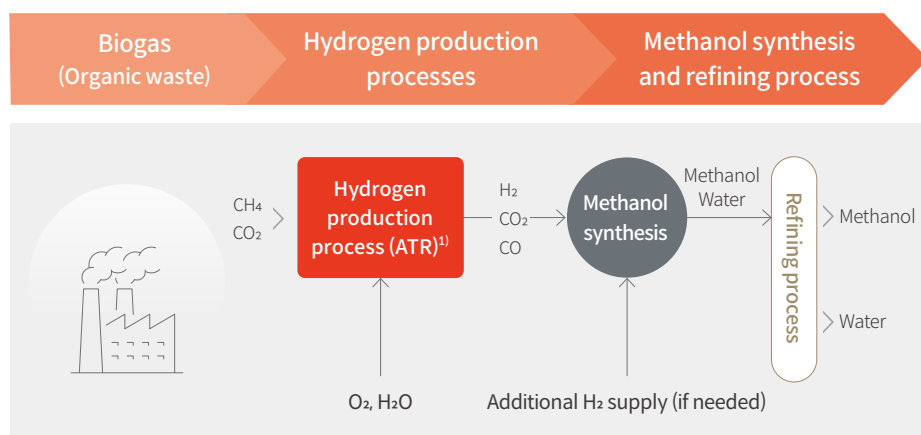
STRENGTHENING NEW GROWTH ENGINES

HYDROGEN CCUS SECTOR

GHG Reduction Bio-methanol Synthesis Technology

LOTTE E&C has been chosen as a joint research partner with the Ministry of Trade, Industry and Energy for “Demonstration project for production technology for market-leading CCU strategic products” to develop bio-methanol synthesis technology that reduces GHG using biogas. Methanol is versatile and can be used as a fuel for transportation, industrial processes, and as a raw material in the petrochemical industry. It can specifically lower GHG emissions by up to 25% compared to traditional fossil fuels by reducing key pollutants such as sulfur oxides and nitrogen oxides during combustion. The process includes a facility that transforms biogas into syngas (H_2 , CO , CO_2) through gasification under high temperature and pressure, and a catalytic reactor that converts this syngas into methanol. This method effectively uses all major components of biogas (CH_4 , CO_2) to produce methanol. Through this project, we aim to develop a commercial-scale process design capable of processing over 10,000 tons of CO_2 annually, secure the underlying technology, and bring the bio-methanol synthesis technology to market.

Bio-methanol Synthesis Technology Process

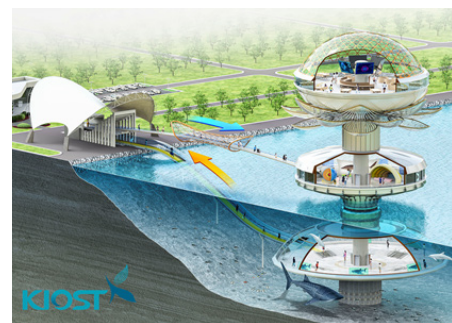


1) Auto thermal reforming: Autothermal reforming hydrogen production method

CIVIL WORKS

Technology to Create and Utilize Subsea Space

LOTTE E&C is engaging in a collaborative public-private-academic research initiative aimed at demonstrating undersea spatial resources for the future expansion of human habitats and optimizing the utilization of marine space. The project seeks to develop technologies for designing, constructing, operating, and managing an underwater living space capable of accommodating five people at a depth of 50 meters. Currently, we are conducting an empirical study with three people at a depth of 30 meters. The Company is also exploring the support and safety of underwater structures through designing foundation platforms and developing construction techniques for subsea space platforms on the seabed. Up to date, we have completed the conceptual design and 3D printing model production, and are progressing with the implementation design. We have applied for four patents related to this technology and published three academic papers to highlight its advantages.



Aerial View of Undersea Space



3D Printed Model of Subsea Space

STRENGTHENING NEW GROWTH ENGINES

DIGITAL TRANSFORMATION (DT) APPLICATIONS

LTE Cat. M1-Based Site Environmental Measurement System

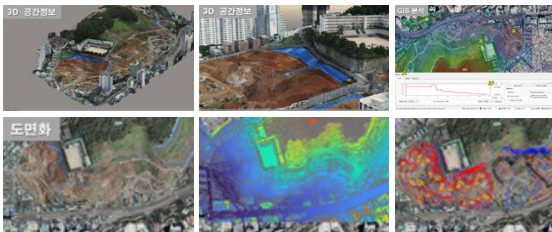
LOTTE E&C has developed a real-time environmental measurement system using the Internet of Things (IoT) and LTE Cat. M1 technology, known for its low-power, high-speed communication capabilities. The system's mobile monitoring module consolidates and oversees measurements of wind speed, noise, and fugitive dust at construction sites. Our goal is to improve safety, health, and environmental management through continuous monitoring across all company sites. Furthermore, we intend to collect site-specific data to fuel AI-driven analysis and risk prediction systems, enhancing site safety and operational efficiency.



Screen displaying integrated measurement of wind, noise and fugitive dust in the field

Pilot Program for Smart Construction Technology

LOTTE E&C has chosen a public housing reconstruction site to pilot smart construction technologies and promote their field application. This pilot integrates eight smart construction technologies, including “digital technology safety monitoring,” “site construction management efficiency,” and “proactive civil complaint response,” based on AI, BIM, drones, IoT, and digital survey. This initiative digitizes site information, enabling real-time decision-making and efficient management. The smart construction pilot will run for approximately 27 months from July 2023, with selective application of the technologies.



Smart Construction Technology Application Screen

Advancing GIS Analysis to Prevent Safety Accidents at Excavation Sites

LOTTE E&C has employed GIS (Geographic Information System) to analyze site databases and develop processes preventing safety accidents during excavation. Digital data acquired from the construction site, including design data such as drawings and stratigraphic conditions, terrain changes, and measurement results, are quantified through GIS and visualized as risk factors that may occur during excavation work and collapse risk based on spatial coordinates used on site. Construction workers can detect and address risks actively, thereby avoiding potential collapse incidents during excavation. Additionally, a safety assessment process through GIS analysis can be created. Moving forward, LOTTE E&C intends to integrate artificial intelligence technology into GIS analysis by continually gathering data and documenting case studies.

Automated Drawing Review Program for Enhancing Insulation Design Quality Using AI

LOTTE E&C ensures energy-efficient spaces by verifying the adequacy of insulation design at each site and distributing design guides and construction manuals to deal with recurring issues. The Company has also developed the “Automated Drawing Review Program for Enhancing Insulation Design,” which simplifies the evaluation of insulation design in critical condensation-prone areas directly from field drawings. This program utilizes a computer vision algorithm trained on insulation data to detect missing insulation in image-based drawings without a specialized design tool. A patent application for the AI-based insulation checking method and system was filed in June 2023, and the initial version of the program has been registered and trademarked as of February 2024. Looking ahead, LOTTE E&C plans to improve the program’s accuracy through ongoing drawing analysis and will conduct beta testing with field practitioners.



Example of Automated Drawing Review Program for Enhancing Insulation Design

SOCIETY

LOTTE E&C endeavors to cultivate a healthy and pleasant workplace culture, where the happiness of our employees can be shared with our customers.

Moreover, we contribute to the enrichment of humanity by offering products and services cherished by various stakeholders, while actively practicing community coexistence and fostering a culture of sharing.

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TALENT MANAGEMENT

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DE&I ORGANIZATIONAL CULTURE

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COMMUNITY ENGAGEMENT

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QUALITY MANAGEMENT

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INCREASE CUSTOMER VALUE

TALENT MANAGEMENT

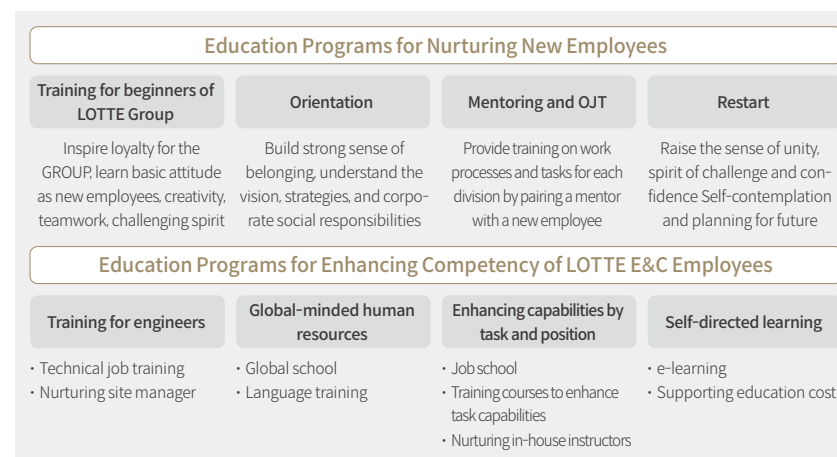
TALENT MANAGEMENT SYSTEM

LOTTE E&C makes effort to discover and nurture global talents who exhibit passion and responsibility, maturely transforming our society while enhancing the capabilities of our employees. Placing greater value on the future our employees will create for themselves, the Company operates a talent development system that enables them to grow into job-specific experts.

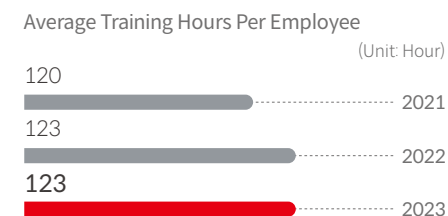
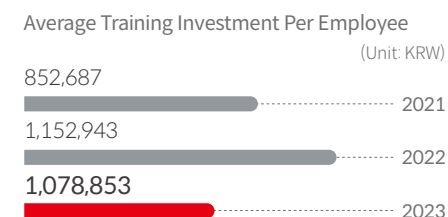
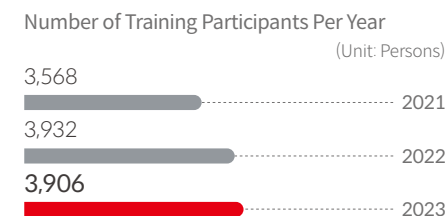
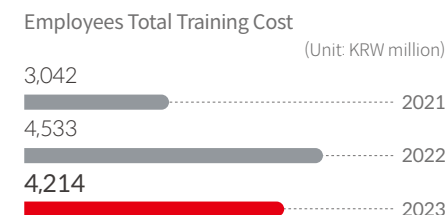
Desirable Images of Talented Human Resources



Talent Development System



Major Achievements in Talent Management



TALENT MANAGEMENT

HIRING PEOPLE OF TALENT

LOTTE E&C makes use of a variety of recruitment channels, including our year-round recruitment system, campus recruitment, and Job-Cafe, to enhance flexibility and efficiency in our hiring process, ensuring that we place the most suitable talents for each project and role. The Company's recruitment process is free from discrimination of gender, region, or education, prioritizing fairness, diversity, suitability, and rationality to select individuals with the expertise needed for each role. We offer a broad spectrum of job opportunities, ranging from office jobs to technical positions, and provide robust mentoring and job-specific training to help individuals reach their full potential. In 2023, we welcomed 236 new hires and remain dedicated to diversifying our recruitment methods to attract people of exceptional talent.

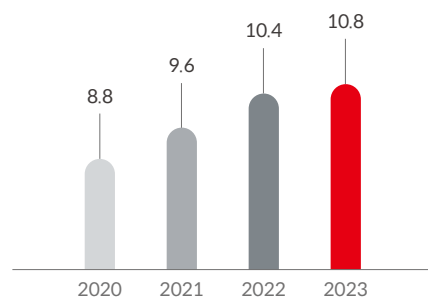
DIVERSE POLICIES TO HIRE PEOPLE OF TALENT

LOTTE E&C implements a hiring policy that embraces diversity, inclusion, and equity to boost creativity and innovation within the organization. The Company runs specialized recruitment programs, such as the "Special Recruitment Process for Persons Subject to Government Employment Support (by Ministry of Patriots and Veterans Affairs)" and "Recruitment Process for Employees with Disabilities." In 2022, we introduced the "Telecommuting System for the Severely Disabled," enabling employees with severe disabilities and limited mobility to work from home for up to four hours a day. This initiative enhances the employment rate for those with severe disabilities and create an inclusive work environment. We also strive to maintain a 30% proportion of females among new hires each year, with the goal of achieving a 15% female employment rate by 2025.

Employment Policies for DE&I

Hiring process for veterans with special needs
Maintain 30% female representation in new hires
Recruitment screening for new employees with disabilities
Semester-long OJT training at local national universities
Telecommuting system for the severely disabled

Ratio of Female Employees (Unit: %)



OJT PROGRAM AT LOCAL UNIVERSITIES

In 2022, LOTTE E&C launched a semester-long OJT (on the job training) program at local universities to attract local talent through industry-academia collaboration and foster mutually beneficial relationships with local communities. Given the nature of construction industry where work sites are widely distributed, recruiting and deploying local people of talent efficiently is essential. In this respect, the Company exempts students from local national universities who participate in our OJT training program from submitting application documents for their first job application after graduation. We intend to refine the system to ensure that we continue to attract outstanding local talent.

WELCOME COURSE FOR NEW EMPLOYEES

LOTTE E&C offers the Welcome Course to facilitate the smooth integration of new employees. The Welcome Course is designed to enhance new hires' understanding of LOTTE E&C and aid in their transition, covering the company's introduction, organizational structure, roles and responsibilities, and ongoing projects. Following the course, the Company further supports new employees by linking them to specialized job training at each headquarters to bolster their job expertise.

OJT Education and Trainings (E&T)

Company-wide Common Training (Total of 11 Courses)	<ul style="list-style-type: none"> • Introductory program • Job-related outsourced E&T • Women's leadership E&T • SA grade E&T • Organization head E&T 	<ul style="list-style-type: none"> • CEO course • Executive language support courses • e-learning courses 	Expected outcomes Acquire required competencies
	OJT E&T by headquarters (Total of 23 Courses)	<ul style="list-style-type: none"> • 5 courses in civil engineering • 3 courses in plant • 7 courses in architecture • 8 courses in housing 	Strengthen skills



Total of 34 courses in 2023

TALENT MANAGEMENT

EMPOWERING EMPLOYEES

LOTTE E&C offers a range of education and training (E&T) programs designed to bolster employees' job competencies and ensure the organization's future competitiveness. The Company provides "company-wide E&T" and "position-specific E&T," organized by the HR team, helping our employees develop the essential skills for their roles. In an effort to strengthen the technical skills and expertise of each job, we run "OJT by headquarters," managed by our business divisions. Furthermore, we refer to the "average training hours per employee" as a management metric to promote training participation and conduct satisfaction surveys to assess training effectiveness and identify areas for improvement. Our goal is to expand E&T opportunities and support to enhance individual capabilities and, in turn, boost the organization's overall competitiveness.

Competency Enhancement Programs

Company-wide Common Training	<ul style="list-style-type: none"> • LOTTE Group's required online courses (Group mandatory) • Group online course (EZ Learning)
E&T by position	<ul style="list-style-type: none"> • ACP, ECP (formerly EMBA) • S-Grade required courses • Online courses to prepare for the M-Grade promotion exam • Introductory E&T for new and experienced employees (Group/each)
OJT	<ul style="list-style-type: none"> • Job training for each headquarters (civil/architecture/housing/safety, etc.) • Individual online courses • Statutory training for engineers (Education Institute of Construction) • E&T related to professional qualification/financial qualification/procurement qualification certification system • Group's Global related courses • Group Interviewer Certification Training • Group Stimulating Coach course • Job School, etc.

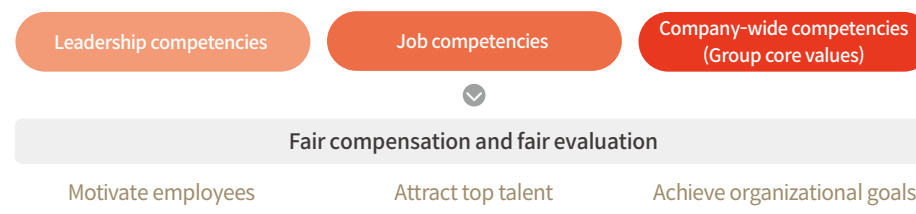
DIAGNOSING LEADERSHIP

LOTTE E&C conducts an annual leadership diagnosis program to evaluate the leadership styles and competencies of executives, team leaders, and site managers, ensuring that leadership development translates into enhanced corporate performance. Introduced in 2014, the program aims to cultivate leadership styles suited to the job and management environment, fostering balanced growth for both the organization and its leaders. Every September, the Company administers a survey accessible via PC and mobile to assess the leadership styles perceived by leaders and employees and identify any discrepancies. This helps guide leaders in adjusting their behaviors to align with employee expectations. We intend to build a more horizontal and adaptable organizational culture by bridging the gap between the leadership levels perceived by leaders and employees.

MANAGING EMPLOYEE PERFORMANCE EVALUATION

LOTTE E&C assesses employees' achievements and competencies fairly, providing appropriate compensation based on these evaluations. Led by the HR team of HR Department, the Company conducts "achievement evaluations" and "competency evaluations" for all employees twice a year. The results of these evaluations inform decisions on promotions, compensation, and training. Employees who demonstrate outstanding performance are occasionally recognized with awards and incentives. Since 2022, we have enhanced performance-based compensation to better align the attainment of corporate goals with individual growth opportunities. The Company has shifted from a position-based salary system to an individual annual salary system, ensuring that rewards reflect each employee's performance. In 2023, we implemented several changes, including performance-based salary increases, to further strengthen our competency- and performance-driven compensation structure.

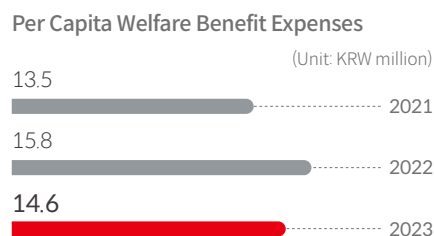
Competency Assessment: Components and Expected Outcomes



EMPLOYEE BENEFITS

EXPANDING BENEFITS

LOTTE E&C offers a flexible welfare system tailored to employee preferences. Reflecting employees' preferences and needs in 2024, we enhanced our family-friendly policies by improving parental and child care leave and establishing a framework that supports a balanced work and family life.



Welfare System

Benefit card	• Corporate credit cards (personal development/recreational/entertainment/others)	
Basic benefits: Creating a Joyful Workplace		
Health promotion	<ul style="list-style-type: none">• Health checkups• Group Insurance 1 (death, cancer)• Group Insurance 2 (hospitalization/outpatient medical expenses)	A system that supports basic life stability such as health and accident insurance, child education, and housing stability, as well as various rewards and club activities
Child education	<ul style="list-style-type: none">• Support for school expenses	
Housing stability	<ul style="list-style-type: none">• Loans for housing-related or life-stabilizing expenses• Condolence money and goods, and condolence vacation support• Reimbursement for packing or relocation expenses	
Joyful workplace	<ul style="list-style-type: none">• Support for club activities• Awards for long service, regular and ad-hoc rewards• Gifts for Labor Day and company anniversary, retirement souvenirs• Regular leave, joint annual leave allocation• Communication expenses, vehicle maintenance costs, car insurance premiums	
Optional welfare system: Realizing the Best Workplace and Best Treatment		
Health promotion	<ul style="list-style-type: none">• Spouse health check-ups• Group insurance for parents/spouse's parents 1 (death, cancer)	By allowing employees to allocate the company's welfare expenses to their individual budgets, we encourage them to design their own benefits plans, providing a variety of choices.

DE&I ORGANIZATIONAL CULTURE

CREATING A FAMILY-FRIENDLY MANAGEMENT SYSTEM

Since 2015 when the Company was certified as a family-friendly, it has been developing and maintaining a family-friendly management system. In January 2021, LOTTE E&C introduced a system to encourage the use of vacation to promote work-life balance. We ensure that all employees can take at least five days of annual leave, and we provide an automatic parental leave system and on-site daycare centers to support childcare needs.

Major Achievements in Parental Leave (Unit: Persons, %)

Category	Unit	2021	2022	2023
Number of employees taking parental leave	Total	69	47	54
	Female	5	4	3
	Male	64	43	51
Number of employees returning to work after parental leave	Total	80	80	70
	Female	4	8	3
	Male	76	72	67
Return-to-work rate after parental leave	Total	98.2	98.1	97.1
	Female	71.4	83.3	96.2
	Male	75.0	77.6	87.3

COMMUTING AND COMPENSATORY LEAVE SYSTEMS

LOTTE E&C has introduced a system of flexible working hours and compensatory leave system to make a flexible work environment. The system is currently being piloted for employees in headquarter where they can request a company-approved starting time for a period of one month or more. In addition, we adhere to statutory and prescribed working hours and ensure employees can take time off by granting compensatory leave for additional hours they had worked. In 2024, we also updated our Employment Rules and introduced an optional work system to further improve employees' work-life balance.

DE&I ORGANIZATIONAL CULTURE

EXPANDING PROGRAMS TO DIVERSIFY CORPORATE CULTURE

LOTTE E&C is shaping its corporate culture together with employees by promoting club activities and supporting employees returning home after work. In 2023, we launched a range of corporate culture programs for Gen Z employees, field workers, partners, and all staff members. Moving forward, we will continue to enhance employee welfare to foster an inclusive organizational culture that embraces all generations, genders, and job roles, aiming to become an outstanding workplace and a company that grows together.

Corporate Culture Program Performance in 2023



Promoting intergenerational communication

“Stand Us”,
employee lecture
content for Gen Z

The Company hosted lectures by four Gen Z employees who shared their experiences and insights on self-branding, embracing challenges, and valuing diversity. These talks helped us connect across generations to share the values and trends of each generation, and build an inclusive organizational culture grounded in mutual understanding.



Enhancing work-life balance

Commuter event
for employee
happiness

To support employees' work-life balance, we organized fun events like a roulette game that encouraged employees to leave work on time and morning cheer sessions to kick off their day with a burst of energy.



Boosting morale of field workers

On-site
event by
visiting employees

The Company is carrying out seasonal on-site events to lift the spirits of our field employees and partners. In the summer, we bring a touch of comfort with our “Visiting Vacation” program while we created special moments with our “Early Christmas” program in the winter.

ASSESSING VALUE CREATION CULTURE

LOTTE E&C performs an annual assessment on value creation culture to gauge employee perceptions of corporate culture, understand areas for improvement, and link findings to actions that enhance the working environment. The assessment covers three areas: foundational, practical, and outcome indicators.

Assessment of Value Creation Culture



DEFINED BENEFIT PENSION PLAN FOR RETIREES

LOTTE E&C operates a defined benefit pension plan to support retirees. After calculating the estimated amounts by the responsible department, the pension plan administrator uses actuarial methods to determine the projected amounts, ensuring that the funds accumulated exceed the minimum legal reserve requirements. We comply with legal standards, including the Employee Retirement Benefit Security Act, and actively participate in this plan.

DE&I ORGANIZATIONAL CULTURE

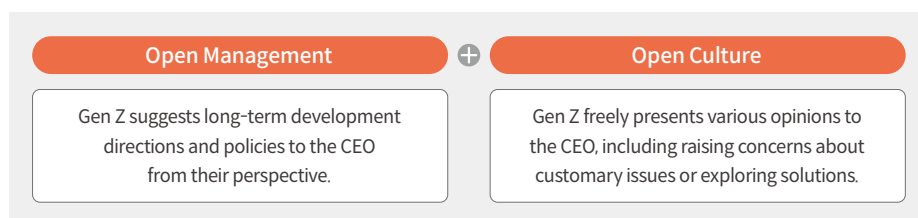
JUNIOR BOARD

To build a horizontal organizational culture and improve communication between top executives and younger employees, LOTTE E&C operates the Junior Board which is a bottom-up communication channel that integrates fresh ideas from employees under the age of 35 (juniors and managers) with company policies and management. Since launching the first L-Junior Board in 2021, the Company has gradually increased its participants. In 2023, we selected the third Board of 11 employees in their 20s and 30s from the headquarters and sites through an open call. This program enables the voices of Gen Z employees to reach management. Relevant departments actively listen to and incorporate their feedback to enhance work and develop cross-generational communication, thus supporting a more horizontal organizational culture.



Town Hall Meeting of The 3rd Junior Board

Junior Board Key Agenda Items



EMPLOYEE CLUB DAY

To cultivate a positive organizational culture based on understanding, trust, collaboration, and communication, LOTTE E&C has set the last Wednesday of every month as Employee Club Day, supporting various club activities. As of 2023, we have 11 active clubs with approximately 370 members. These clubs not only help individual growth and development but also meet pride and satisfaction within the organization.

BUILDING A FAMILY-FRIENDLY ORGANIZATIONAL CULTURE

LOTTE E&C also runs various programs to promote a family-friendly culture. For Family Month in May 2024, we hosted the “Happy Family Month” event, providing movie tickets and snack vouchers to employees, and rewarding those who shared their family moments on social media with Lotte World passes. The Company remains committed to creating an organizational culture where work and family life are seamlessly integrated.

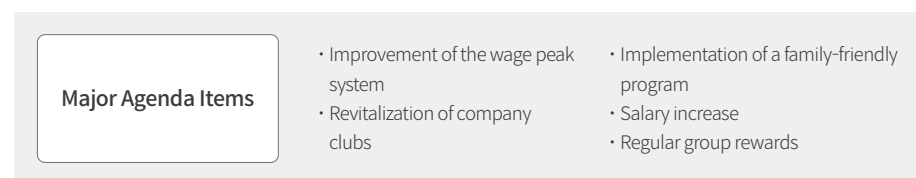


Poster of “Happy Family Month”, Family Month event >

LABOR-MANAGEMENT COUNCIL

As a non-unionized company, LOTTE E&C doesn't have a collective bargaining agreement, but ensures that employee voices are heard through the Labor-Management Council. Consisting of five representatives from both management and employees, the Council meets quarterly, addressing key issues such as worker welfare, wages, health, and safety, increasing harmony and trust between labor and management. Extraordinary general meetings can be convened as needed. In 2023, a total of 20 agenda items were discussed and approved.

Major Agenda Items for Labor-Management Council in 2023



COMMUNITY ENGAGEMENT

SOCIAL CONTRIBUTION PROMOTION SYSTEM

Leveraging its expertise in the construction industry, LOTTE E&C identifies social contribution topics that align with the needs of local communities and encourages employee participation in these initiatives on a voluntary basis. Guided by the Social Contribution Subcouncil within Sustainable Management Committee under the CEO, the Company collaborates with NGOs and different community networks to develop and implement programs that support the underprivileged. Additionally, through the Charlotte Volunteer Group, comprising both headquarters departments and field units, we engage in activities such as facility improvements, providing daily necessities, and offering cultural experiences for those in need within the local community. Donations are managed according to internal donation regulations. For substantial donations, we ensure transparency by seeking approval through either the Management Committee or the Board of Directors, depending on its size.

MONITORING COMMUNITY ENGAGEMENT EFFORTS

LOTTE E&C encourages participation in volunteer activities of Charlotte Volunteer Group, which includes both headquarters and field employees by having the CEO personally present awards to outstanding volunteer organizations at the annual opening ceremony. The evaluation of outstanding volunteer organizations is based on the following criteria: number of volunteer services (20 points), volunteer hours (20 points), volunteer participation rate relative to the total number of volunteers (20 points), quality of volunteer programs (20 points), and external awards and publicity (20 points). We avoid simple material donations and instead award additional points for facility improvement services, which are a representative program aligned with the construction industry's characteristics. We are also encouraging increased participation in cultural service and environmental cleanup programs. Furthermore, the Company has operated the Matching Grant program to support social contributions since 2011. The system allows employees to contribute a portion of their monthly salary or a year-end donation, with the company matching the amount. As of 2023, 65.5% of employees have participated in the Matching Grant program. Fund and expenditure details are transparently shared with all employees via the intranet.

Social Contribution Promotion System

Basic Principle of Social Contribution

A love-sharing company that grows together with local communities

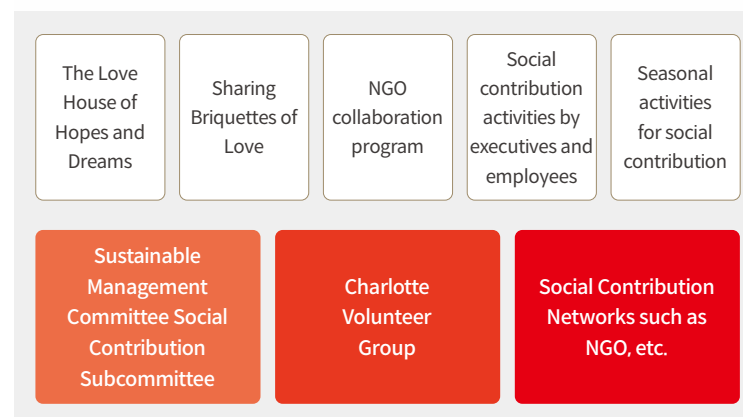
Utilizing its characteristics as a construction firm and the expertise of its executives and employees as our strengths, LOTTE E&C makes efforts to expand voluntary activities in selecting and participating in social contribution agendas needed for local communities.

Social Contribution Strategies



Foundation for Social Contribution Activities

Social Contribution Organization



COMMUNITY ENGAGEMENT

SPREADING SOCIAL VALUES

Sharing Briquettes of Love

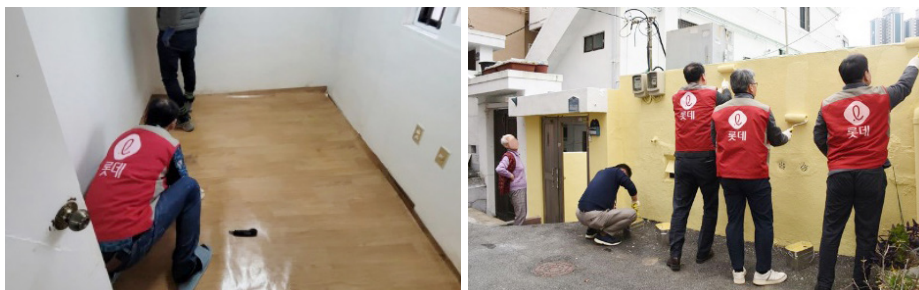
Since 2011, LOTTE E&C has been running the employee volunteer program called “Sharing Briquettes of Love” each winter to assist energy-impo- verished households in Seoul and Busan. In 2023, the Company shared 80,000 briquettes and 1,645 boxes of instant noodles to families in these regions. Over the past 13 years, we have donated a total of 700,000 briquettes.

Charlotte Volunteer Group

LOTTE E&C proudly operates the Charlotte Volunteer Group, consisting of both domestic and inter- national employee volunteers. Beginning with 18 teams in 2011, the Charlotte Volunteer Group has grown to 75 teams by December 2023, with 947 employees actively participating in volunteer activi- ties throughout the year. Our representative social contribution program, the Charlotte Volunteer Group organizes a variety of initiatives, including the enhancement of aging facilities, environmental cleanups, and cultural enrichment activities.

The Love House of Hopes and Dreams

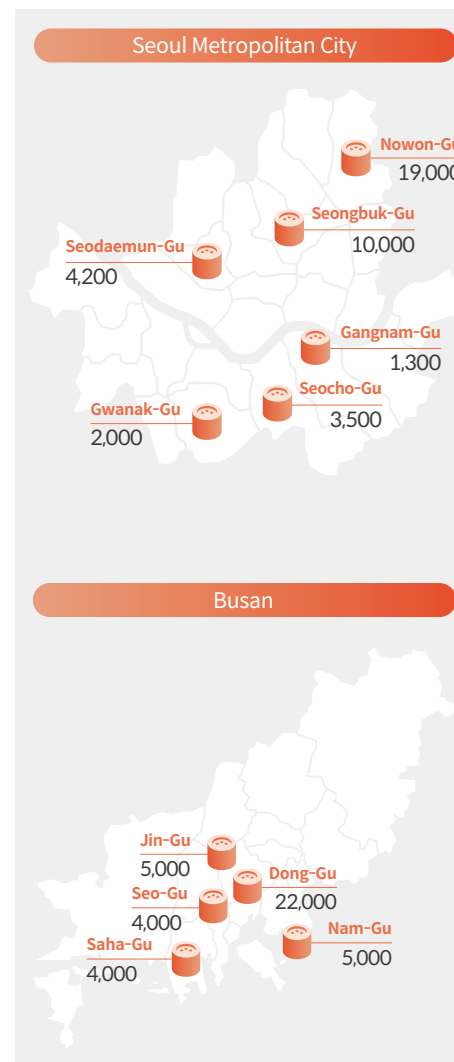
Since 2012, LOTTE E&C’s Love House program has been dedicated to bringing dreams and hope to local welfare facilities, such as children’s centers and low-income families, by renovating buildings and providing essential home appliances and daily necessities. What started in 2012 with one facility each in Seoul and Busan has expanded to 34 facilities in Seoul and 54 in Busan by the end of 2023, totaling 88 improved facilities. By leveraging our construction expertise, we are giving back to the community, contributing our resources and skills, and fostering mutual benefits through these heartfelt efforts.



Love House Activities Sharing Dream and Love

Sharing Briquettes by Region in 2023

(Unit: ea.)



Sharing Briquettes of Love

Seoul Metropolitan City
40,000 donated

Busan
40,000 donated

COMMUNITY ENGAGEMENT

Environmental Campaigns with Employees

LOTTE E&C launched a three-month campaign from July to October to plant seeds for a green farm. This initiative, conducted in partnership with SK C&C and the Community Chest of Korea, was part of the company's voluntary social contribution activities. Using the social contribution mobile application called Hangarae ("Adding Happiness to Tomorrow"), 316 employees participated in addressing various social issues. Their activities included daily environmental protection tasks like using tumblers, healthy walking, cycling, zero waste, reducing standby electricity, and separating transparent plastic bottles. Additionally, they engaged in blood donation, volunteering, and proposing social value ideas. These efforts resulted in a reduction of 33,124 gCO₂eq in carbon emissions through 47,430 activities.

Social Values Created through Plant a Seed Campaign for Carbon Reduction

Social Values Created			
(Unit: KRW thousand)			
Carbon emission reduced	Resource saved	Social cost reduced	Monetary value
3,520,052	17,397,580	9,604,338	30,521,970



Total carbon reduction
(Unit: gCO ₂ eq)
33,123,902



Green Farm Initiative by Charlotte Volunteer Group

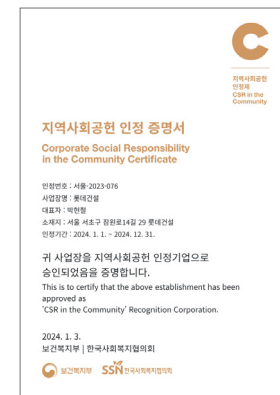
Established the Green Farm

In an effort to contribute to the improvement of local infrastructure, LOTTE E&C established the Green Farm¹⁾, a 1,983m² eco-friendly vegetable garden in Gaekhwa-dong, Gangseo-gu, Seoul in 2023. Funds for the Green Farm were raised through the "Plant a Seed Campaign for Carbon Reduction", which our employees took part in 2023. Alongside 168 persons from vulnerable social groups in Gangseo-Gu, including the elderly living alone, disabled, and multicultural families, we aim to foster a culture of sharing by returning processed foods such as homemade preserve beverages and Kimchi harvested from the Green Farm to the community. This program creates social value by supporting virtuous self-reliance for beneficiaries, restoring their emotional, social, and physical well-being, improving their self-esteem, and fostering a sense of independence.

1) A healing and natural farming program where socially marginalized individuals can connect with nature by planting and growing crops, and share the harvest with local residents to foster mutual relationships

"CSR in the Community" Recognition Corporation in 2023

In December 2023, LOTTE E&C was honored as a Recognition Corporation in Corporate Social Responsibility in the Community certification evaluation, jointly organized by the Ministry of Health and Welfare and Social Service Network. The Corporate Social Responsibility in the Community acknowledges companies or organizations that have partnered with non-profit organizations to consistently engage in local social contribution activities. The Company has gradually expanded and integrated its social contribution efforts within the organization, earning approval as Type 1 (Central Public Institutions, Large Enterprises), which has the most evaluation criteria among the evaluation types. Notably, we were recognized for our various social contribution initiatives, including the "Love House of Hopes and Dreams," a facility renovation program for the vulnerable, the "Love Briquette and Ramen Sharing Program," which provided a total of 702,000 briquettes and food to the energy-impooverished individuals in Seoul, Busan, Gangwon, and Wonju, the "National Cemetery Volunteer Service," a program for employees and their families, and the "Step Donation Campaign," where employees contribute by donating their steps. We will continue to fulfill our corporate social responsibility by participating social contribution activities.



Corporate Social Responsibility in the Community Certificate

QUALITY MANAGEMENT

QUALITY MANAGEMENT PROMOTION SYSTEM

LOTTE E&C performs phased quality checks throughout the entire project lifecycle, from construction to post-management, and provides professional management after residents move in. To enhance customer satisfaction, we provide systematic training on customer interactions and operate a customer response system. We also strive to deliver the highest quality through comprehensive quality inspections by the CS division of the Housing Division and our resident management process. Additionally, we maintain ISO 9001 quality management system certification, renewed annually, and regularly conduct internal audits to review the implementation of quality management plans at each site.

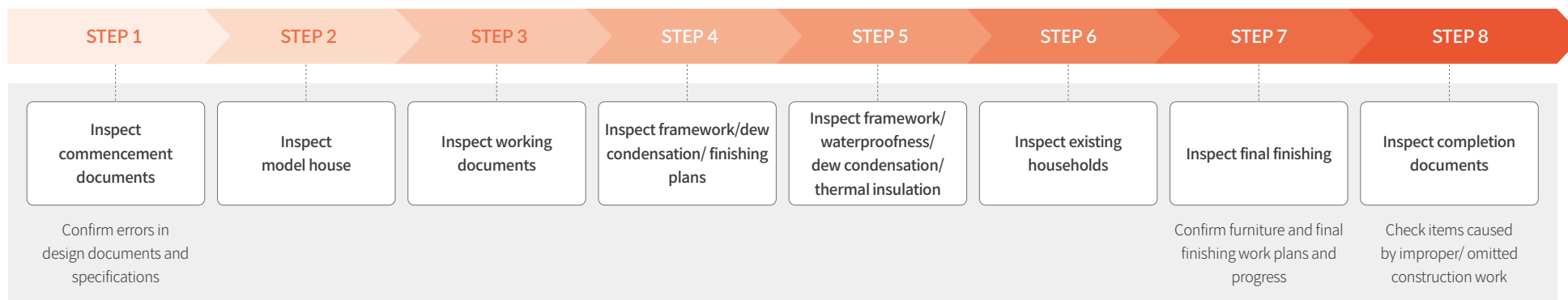
QUALITY INSPECTION PROCESS

LOTTE E&C is improving its quality inspection process at construction sites by strengthening procedures for checking defects and their main causes at each project stage. The Company has established fundamental improvement measures to eliminate defects and is applying these solutions on-site. Additionally, we are expanding the frequency of quality inspections to ensure thorough oversight.

Quality Inspection Performance in 2023

Category	Type	Construction work provided	
Quality Inspection	Inspection of model house	Magok MICE CP3-1, Siheung Eunhang district Section 2 and others	15 inspections
	Inspection of existing households	Incheon Cheongcheon, Goyang Wondang 4 and others	6 inspections (67 suggestion for improvement)
	Inspection of framework/dew condensation/finishing plans	LotteMart Suji Branch, Cheonan Cheongdang and others	3 inspections (36 suggestion for improvement)
	Inspection of framework/ waterproofness/dew condensation/ thermal insulation	Gwangmyeong 2R, Gireum New Town and others	22 inspections (254 suggestion for improvement)
	Inspection of final finishing	Jayang Section 1, Sinbanpo 13 and others	6 inspections (76 suggestion for improvement)
Quality Improvement	Dissemination of defects cases	Key defect cases and response measures for management sites	7 cases (disseminated to all sites)
Landscape Management	Landscaping maintenance work	Pruning, irrigation, weeding, mowing, and pest control	27 sites

Quality Inspection Process of Housing Construction Site



QUALITY MANAGEMENT

INTEGRATED MANAGEMENT AND STANDARDIZATION PROCESS FOR DESIGN DOCUMENT

LOTTE E&C is strengthening on-site quality by conducting inspections based on checklists for each construction stage, implementing an integrated management and standardization system for design drawings to mitigate defect risks.

DEVELOPING AI PLATFORM FOR CONSTRUCTION SPECIFICATIONS

In collaboration with the industrial safety innovation startup DOAZ, LOTTE E&C has developed and filed a patent application for “ConGPT,” Korea’s first AI-based platform for construction specification Q&A and analysis. “ConGPT” is an interactive AI platform based on LLM¹⁾ technology that facilitates smooth and efficient communication between partners and construction personnel by providing real-time answers to complex and diverse construction specifications. Utilizing big data and machine learning algorithms, “ConGPT” offers more accurate analysis and predictions, enhancing work efficiency by quickly reviewing and verifying intricate design criteria. LOTTE E&C will continue to make utmost effort to develop innovative and sustainable construction technologies to improve quality control and prevent misconstructions.

1) Large Language Model



Sample images of the ConGPT system

TECHNICAL INFORMATION SHARING SYSTEM FOR DEFECT MANAGEMENT

The Company has established a company-wide integrated document management system (ECM) and a technical information sharing system for defect management to share technical information and expertise related to defect prevention and recurrence. As of the end of December 2023, a total of 824 technical documents have been registered, and we support their immediate application on-site.

CONDUCTING POST-COMPLETION INSPECTIONS

To maintain systematic quality control after project completion, LOTTE E&C deploys a mobile inspection team to identify and address defects at each site. Within the three months following completion, an emergency response team, composed of multifunctional workers, promptly addresses any defects. Furthermore, to ensure quality reliability, the team evaluates water distribution boards, inspects community facilities and common areas within the complex, and performs special inspections on landscape maintenance.

Inspection After Completion of Construction

Category	Inspection period	Contents
Inspection of community facilities and common areas inside the complex	Once a year after 6 months of completion	<ul style="list-style-type: none"> - Testing of air conditioning and heating in community facilities and common areas - Inspection of switch operations - Checking normal operation of electric meters - Inspection of parts vulnerable to freezing (checking of normal operation of hot-wire power and snow melting)
Inspection of landscape maintenance	Twice a year for two years after completion	<ul style="list-style-type: none"> - Inspection of dead trees and supplementary planting - Checking common areas
Inspection of distributing panels	Once a year for three years after completion	<ul style="list-style-type: none"> - Inspection of distribution panels, including extra-high voltage panels, transformers, low voltage panels, and MCCB panels

QUALITY INNOVATION ACADEMY

LOTTE E&C runs the Quality Innovation Academy to upgrade technical skills in each field for its technical employees. In 2023, the Academy conducted 26 live training sessions, with 1,511 employees participating from architecture, civil engineering, landscape, mechanical and electrical, and plant technology.

ENHANCING CUSTOMER VALUE

GRAND PRIZE IN THE APARTMENT CATEGORY AT “THE KOREA SERVICE GRAND PRIX”

LOTTE E&C won the Grand Prize in the apartment category for the 22nd consecutive year at the 2023 Korea Service Grand Prix, organized by the Korea Standards Association. This award demonstrates LOTTE E&C's commitment to providing comprehensive services beyond just housing. The company was recognized for producing customer convenience and quality of life by incorporating feedback from various customer interactions into its products and services. We will continue to focus on customer-centered service management, swiftly addressing customer needs and market trends while developing products that reflect current trends.



Award Ceremony of Korea Service Grand Prix 2023

OPERATING CASTLING, CUSTOMER SATISFACTION SERVICE BRAND

Since November 2022, LOTTE E&C has been running “CASTLing”, the customer satisfaction (CS) service brand. CASTLing offers a range of free services for apartment residents, including cleaning services to make the best environment of each unit and the complex, and engaging cultural events to boost customer satisfaction. As part of our ESG management, we clean and spray road surfaces inside and outside the complex to reduce fine dust, using small electric cleaning vehicles to minimize secondary dust generation. We also try to raise the awareness of resource recycling amongst residents through cultural events with the theme of recycling. Looking ahead, the Company tries to develop its CS services to strengthen its brands and continues offering ESG-focused cultural activities and environmental improvement initiatives.

CONTACTLESS MOBILE AFTER-SALES SERVICE, CASTLING

LOTTE E&C has been operating a non-face-to-face mobile application after-sales service CASTLing since 2021 to enhance accessibility and convenience for residents. The application allows residents to easily view the status of defect reports, announcements, and more. Residents can directly upload photos, making the after-sales reporting and processing faster and more convenient compared to traditional face-to-face methods.

RESEARCH AND DEVELOPMENT OF RESIDENTIAL FLOOR PLANS FOR FUTURE CONSUMERS

LOTTE E&C's Design Research Institute developed a new residential floor plan in collaboration with apartment design experts who are also prospective consumers (those born in the late 80s and 90s) in the future. By examining architectural examples of new houses and apartment renovations both in Korea and abroad, and analyzing domestic residential trends, we redesigned an 84m² tower floor plan to better meet the needs of future households. The new design includes changes in space hierarchy, size, and layout, including the reconfiguration of the compact kitchen and bathroom, with an emphasis on an expanded entrance space. Based on our research, the Design Research Institute proposed two space concepts: “EnterLounge (ENTRANCE+ENTERTAINMENT+LOUNGE)” and “EGO+SPACE”. The “EnterLounge” concept enhances the different functionality of the entrance hall that serves as a transitional zone between the outdoors and indoors. Turning it into a versatile area for activities previously conducted outside, we created a personalized space where residents can communicate with family, friends, pets, and plants. The “EGO+SPACE” concept makes active use of the existing alpha room to provide a dedicated, personal space. The “Ego Terrace,” which extends from the entrance hall, separates the main living area from the “EGO+SPACE,” allowing for focused, uninterrupted use. LOTTE E&C is analyzing diverse future lifestyles and integrating resident-centered strategies into its floor plans. We will continue to expand our R&D efforts and lead the future residential market with LOTTE Castle.



EnterLounge Floor Plan



EGO+SPACE Floor Plan

ENHANCING CUSTOMER VALUE

CUSTOMER ENGAGEMENT ESG ACTIVITIES

In the first half of 2023, LOTTE E&C established cleaning zones in four complexes (Yongsan Lotte Castle CenterForêt, Lotte Castle Golden Hills in Gireum New Town 11, Lotte Castle Park Nine in Seongbok Station, and LOTTE CASTLE Raycity in Sinheungdeok) to encourage proper waste separation. We also launched the “Supercube Campaign” featuring Nephron, an AI recycling robot. Additionally, the Company operated a garbage general store where residents could engage in various upcycling activities, such as purchasing recycled goal posts, pencils made from waste newspaper, wooden key rings from recycled plastic, and creating bottle cap blocks. We will continue to promote customer-participatory ESG activities to seamlessly integrate recycling and reuse into everyday life.



CASTLing Recycling Event

HAPPY CALL SERVICE

LOTTE E&C surveys customer satisfaction and complaints on a regular basis, using the collected data to improve products and services. In 2023, Happy Call satisfaction results were recorded “Very satisfied” at 50.7%, “Satisfied” at 38.2% and “Neutral” at 11.1%. We try to communicate with our customers in a friendly and transparent manner to ensure their satisfaction and will actively incorporate their feedback into our service improvements.

2023 Survey on Satisfaction with Happy Call Service

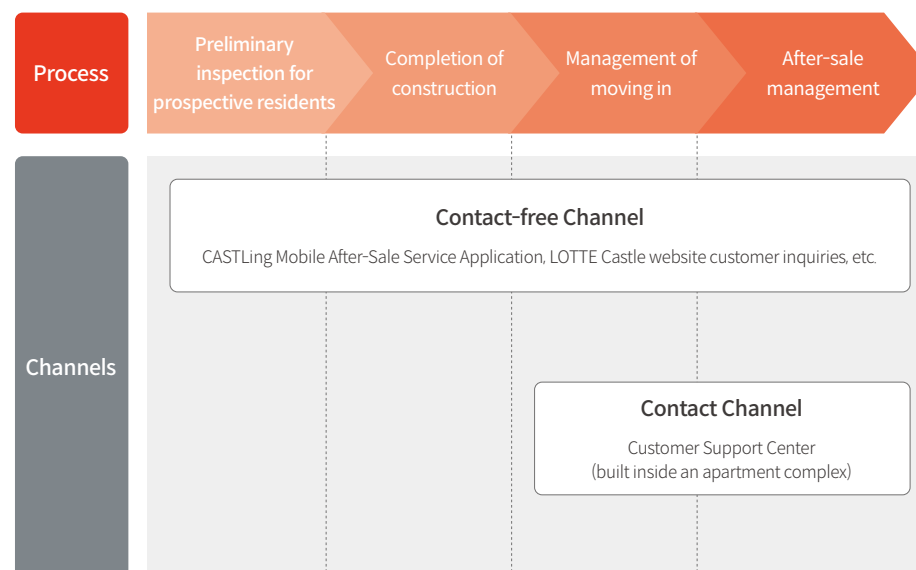
(Unit: %)



COMPLAINT REPORTING PROCESS

LOTTE E&C operates various complaint registration channels, including non-face-to-face methods, to listen to and address residents’ complaints regarding defect reporting and handling.

Complaint Registration Process



VISIT MY HOME DAY

LOTTE E&C hosts the “Visit My Home Day” event for prospective residents. During COVID-19, the Company established separate waiting areas for families and implemented real-time disinfection and quarantine procedures to ensure the safety of future Lotte Castle residents. Moreover, we enhanced safety by collecting check sheets electronically and introducing a drive-through system. LOTTE E&C will continue to offer diverse, safe, and secure customer experiences to strengthen our connection with residents.

PROSPERITY

LOTTE E&C is making various effort to build transparent and trustworthy governance. We will persist in our commitment to transparent management and foster a robust business environment through ongoing communication with our stakeholders.

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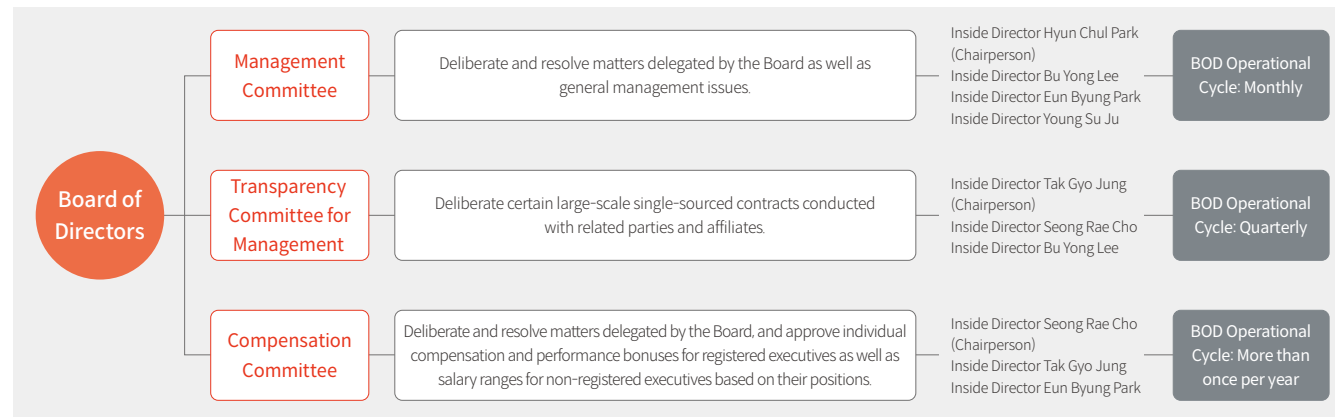
BOARD OF DIRECTORS

COMPOSITION OF THE BOARD OF DIRECTORS

The highest decision-making body with voting rights on corporate management and business operations, LOTTE E&C's Board of Directors is composed of a total of six directors. Directors serve a term of up to three years, determined by resolution at the general meeting of shareholders. Regular BOD meetings are held monthly, with additional extraordinary meetings convened as needed. In 2023, the BOD held a total of 10 meetings, with an average attendance rate of 98.3%. The BOD includes three subcommittees: the Management Committee, the Transparency Committee for Management, and the Compensation Committee. The Management Committee is composed of three or more internal directors, including the CEO while the Transparent Management Committee is composed of three or more directors, with at least two outside directors. The Compensation Committee consists of three or more directors, including at least two outside directors, and the number of outside directors must meet at least two-thirds of the total number of members. The term of the subcommittees aligns with the expiration of the directors' terms. There is no separate Outside Director Nominating Committee or Audit Committee.

Committees of BOD

(As of March 26, 2024)



BOD EXPERTISE

LOTTE E&C appoints professionals with substantial expertise and qualifications in architecture, law, business strategy, human resources, and finance as directors. Although there is no separate training for BOD members, a support organization comprised of employees with an average employment year of around 12 is in place to assist outside directors in performing their duties without disruption. In this regard, the Company transparently discloses the backgrounds and areas of expertise of individual directors in the business report, along with details about the support organization that assists outside directors in carrying out their responsibilities.

BOARD OF DIRECTORS

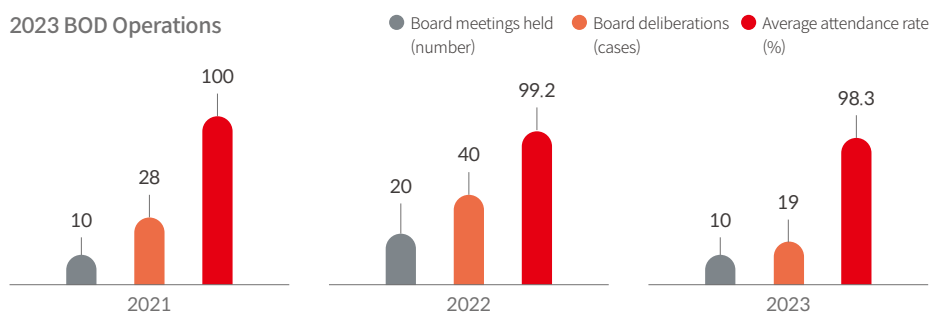
Composition of the Board of Directors

(As of March 26, 2024)

Category	Name	Gender	Appointment Date	Term	Transactions with the Company	Key Experience
Inside Director	Hyun Chul Park	Male	December 2022	December 2024	None	CEO, Chairperson of The BOD ¹⁾
	Bu Yong Lee	Male	August 2023	March 2025	None	Head of Housing Business Division
	Eun Byung Park	Male	March 2023	March 2025	None	Head of Management Support Division
	Young Su Ju	Male	March 2024	March 2026	None	Head of Strategic Planning Division
Outside Director	Seong Rae Cho	Male	March 2024	March 2026	None	BNK Standing Supervisory Committee Member
	Tak Gyo Jung	Male	March 2024	March 2026	None	Dongin Law Group
Auditor	JongGeun Kim	Male	March 2024	March 2027	None	Head of Lotte Holdings Business Support Team 1

1) According to the "BOD Operating Regulations," the CEO serves as the Chairperson of the Board, and directors with special interests are prohibited from exercising voting rights to manage conflicts of interest.

2023 BOD Operations



APPOINTING DIRECTORS

To streamline management decision-making, LOTTE E&C designates the CEO as the Chairperson of BOD in line with the Board's Operating Regulations. Directors are appointed by the general meeting of shareholders, with the BOD selecting candidates for these appointments. To maintain the independence of the BOD and ensure objective oversight of the company's operations, we do not have a separate committee for recommending outside director candidates.

BOD INDEPENDENCE

LOTTE E&C mandates that directors with special interests are prohibited from exercising their voting rights when the chairperson also holds a senior executive position, in accordance with the Board of Directors' Operating Regulations. Furthermore, the voting rights that cannot be exercised are excluded from the tally of voting rights for the directors present.

EVALUATING AND COMPENSATING BOD PERFORMANCE

Compensation for directors and auditors is provided within the limit approved at the annual general meeting of shareholders. Severance pay for directors is determined by multiplying the monthly base salary, length of service, and payout rate according to executive severance pay provisions. The compensation limit of KRW 12 billion was approved at the March 2023 Annual General Meeting. Annual salaries and incentives are determined based on position, years of service, roles and responsibilities, and contributions to the company. The compensation details for all directors are transparently disclosed in the annual business report.

BOD Compensation¹⁾

Category	Number of Members	Total Compensation	Average Compensation per Person
Registered Directors	4	KRW 3,962 million	KRW 1,032 million
Outside Director	2	KRW 144 million	KRW 72 million
Auditor	1	-	-

1) Eun Byung Park, appointed in March 2023, and Hee Chul Seok, dismissed in November 2023, are included in the registered directors. Total compensation includes salary and severance pay for the month of appointment or dismissal, but the average compensation per person excludes these adjustments.

AUDITOR INDEPENDENCE

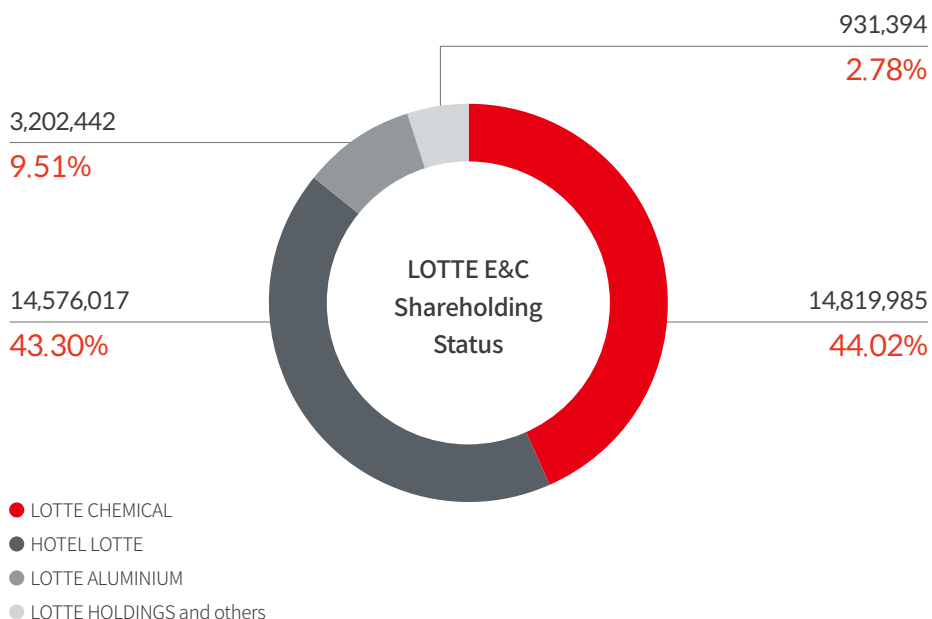
LOTTE E&C's auditors may attend board meetings, independently oversee directors' activities, and request relevant documents and records. They can receive business reports from the company as needed and access management information appropriately. While we do not currently have a separate audit committee, one auditor appointed by the General Meeting of Shareholders handles audit duties. In fiscal 2023, the Company conducted four audits. A support team of three accounting members assists with key management reviews and other audit-related tasks to ensure a smooth audit process.

SHAREHOLDER-FRIENDLY MANAGEMENT

SHAREHOLDER STATUS

As of December 31, 2023, LOTTE Chemical is the largest shareholder of LOTTE E&C, holding 44.02% of the shares. The total shareholding ratio of related parties, including the largest shareholder, stands at 99.6%. LOTTE Chemical's largest shareholder is LOTTE Holding, which holds 25.31%.

Shareholding Status of the Largest Shareholder and Related Parties



GENERAL SHAREHOLDERS' MEETINGS

LOTTE E&C conducts both regular and extraordinary general shareholders' meetings in accordance with the Articles of Association. The regular annual meeting is held within three months of the fiscal year-end, while extraordinary meetings are called as needed. In 2023, LOTTE E&C held one general meeting of shareholders. We do not utilize electronic proxy, electronic voting, or concentrated voting methods.

POLICY TO PROTECT SHAREHOLDER RIGHTS

LOTTE E&C has implemented an outside director system to safeguard the rights of minority shareholders. As outlined in the Articles of Association, the BOD must have a minimum of three and a maximum of ten directors, with at least one-fourth of them being outside directors.

DISCLOSING SUSTAINABILITY REPORT

LOTTE E&C has been sharing its sustainability activities and performance transparently through its annual Sustainability Report since 2013. The Report aligns our strategy with our sustainability goals and provides detailed insights, including our alignment with the UN SDGs and various global standards. To ensure the Report's reliability, fairness, and completeness, it is verified by an independent external expert organization. Both Korean and English versions of the Report are available on our official website.

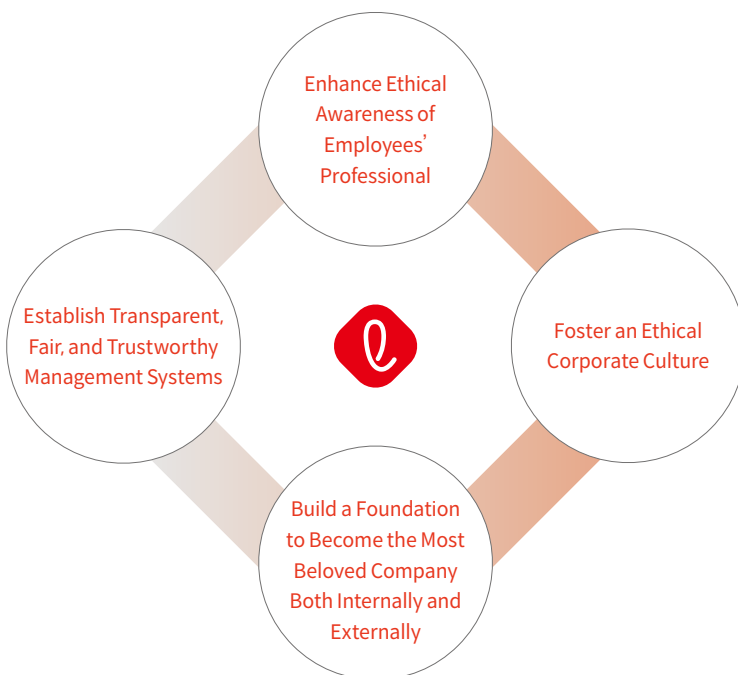
LOTTE E&C Official Website [🔗](#)

ETHICAL MANAGEMENT

ETHICAL MANAGEMENT PROMOTION SYSTEM

LOTTE E&C is committed to ethical management by embedding core ethical principles and fostering an ethical workplace as key strategic priorities. Our goal is to deliver exceptional value to our customers and to become a company that is trusted and cherished by all stakeholders. The Company has particularly established a robust ethical management system to ensure transparent communication and mutual growth with both internal and external stakeholders. This system encompasses our “ethical behavior standards,” “ethical framework,” and “ethical awareness and implementation,” facilitating comprehensive communication on all ethical matters. Each year, we assess our ethical management practices through LOTTE Group’s proactive management system, identifying areas for improvement. These insights are incorporated into revisions of our Code of Conduct and are addressed through ongoing education and training.

LOTTE E&C’s Ethical Management Goals



Ethical Management Promotion System

Mission

**Sustainable Company Providing Higher Value to Our Customers
with Differentiated Competitiveness**

Strategic Tasks

Internalize basic ethics

Stick to the principles and maintain trust in a fair and lawful manner

Revitalize social ethics

Pursue the coexistence of people, environment, and future

Detailed Tasks

- Enhance participatory ethical management (Inside and outside stakeholders)
- Build Ethical Value Chain by business units
- Make ethical management a common practice (Business=Ethics=Daily work)
- Establish integrated foundation for sustainable management
- Increase participation of and communication with stakeholders
- Advance and specialize ethical management by areas (Economy/Environment/Society)

Ethical Management System

LOTTE GROUP Philosophy/LOTTE E&C Management Philosophy

External stakeholders

Customer

Shareholder/
Investor

Local
community

Partner
companies

Ethical management system

Code of Conduct

- Code of Conduct and Ethics
- Management leadership

Compliance System

- Ethical governance
- Ethical operation system

Consensus

- Education and programs
- Awareness and behaviors

Internal stakeholders

The
management

Employees

Overseas

Worksites

Stakeholder satisfaction and management focused on mutual growth

ETHICAL MANAGEMENT

ETHICAL MANAGEMENT DOCUMENTATION SYSTEM

LOTTE E&C maintains an ethical management documentation system to provide clear guidelines on ethical practices for employees and stakeholders, and to promote their implementation. This system includes the “Ethical Management Policy,” “Implementation Guidelines,” “Ethical Management Strategies,” and “Ethical Management Activities.” In line with the five themes of the LOTTE People’s Code of Conduct, the Company has established a Code of Ethics, Code of Conduct, Behavioral standards and Practice Guidelines to address conflicts of interest, define appropriate behavior and values, and outline standards for conflict prevention. These documents are available on our ethical management website.

LOTTE E&C’s Ethical Management Website [🔗](#)

Structure of Ethical Management Documents

Ethical Management Policies	Ethical Management Strategies	Implementation Guidelines	Ethical Management Activities
<ul style="list-style-type: none"> • Code of Ethics • Code of Conduct • Behavioral standards 	<ul style="list-style-type: none"> • CEO’s message • Direction for ethical management • System 	<ul style="list-style-type: none"> • Guidelines for ethical management practices • Guidelines for reward and punishment • Guidelines for unlawful behaviors such as bribery, etc. 	<ul style="list-style-type: none"> • Ethical management self-check • Ethical messages • Ethical management quiz • Ethical Week • Internal audit • Ethical management evaluation

Five Themes of the LOTTE Code of Conduct

THEME 1	THEME 2	THEME 3	THEME 4	THEME 5
Trust with customers	Trust with employees	Trust with partners	Trust with shareholders	Trust with society
<ul style="list-style-type: none">• Provide the best products and services• Conduct honest marketing• Protect customer information• Protect Brands	<ul style="list-style-type: none">• Fair opportunities and fair treatment• Fair treatment• Mutual respect among members• Gender equality <ul style="list-style-type: none">• Prevent information leakage	<ul style="list-style-type: none">• Fair trade regulations• Compliance• Respect for partners• Fair competition• Collect information in a legal manner <ul style="list-style-type: none">• Prohibit corruption and bribery	<ul style="list-style-type: none">• Enhance shareholder value• Prevent conflicts of interest• Enhance accounting transparency <ul style="list-style-type: none">• Prohibit insider trading	<ul style="list-style-type: none">• Protect environment• Create social value and social contribution• Respect human rights• Respect cultural diversity <ul style="list-style-type: none">• Comply with local laws• Adhere to separation of politics and business

SELF-CHECK OF ETHICAL MANAGEMENT

LOTTE E&C runs the “Ethical Management Self-Check Program” to enhance employees’ ethical awareness and encourage adherence to the Code of Conduct. Employees regularly complete online self-checklists, view ethics message videos, and participate in ethics management quizzes to improve their ability to handle ethical risks in the workplace.

ETHICAL MANAGEMENT DIAGNOSIS

LOTTE E&C performs an annual ethical management diagnosis, including compliance assessments, under the guidance of LOTTE Group. The Company evaluates its ethical management practices based on the five themes of the LOTTE Code of Conduct. This evaluation helps us understand our current status, identify areas for improvement, and guide revisions to the Code of Conduct and the development of ethics education programs.

Results of the Ethics Management Comprehensive Diagnosis

(Unit: Points)

Category	2021	2022	2023
Practice Index	85	86	85
Reference Index	95	96	94
Comprehensive index	90	91	90

ETHICAL MANAGEMENT

ETHICS EDUCATION

LOTTE E&C is making its utmost effort to integrate ethical management across all areas of the organization and build a corporate culture of voluntary ethical behavior among employees. Since 2015, the Company has been conducting industry-specific cyber training on ethical management for all employees. Our programs are tailored by position and job title to address specific ethical challenges. Additionally, we offer training for local hires at overseas locations, coordinated by our international subsidiaries and branch managers, to ensure ethical practices are maintained company-wide.

ANTI-BRIBERY HOLIDAY GIFTS CAMPAIGN

LOTTE E&C runs a Anti-Bribery Holiday Gifts Campaign through the Gift Return Center in the Ethics Secretariat to eliminate inappropriate gifts during the holiday season. As a general rule, all executives and employees are prohibited from accepting gifts. If accepting a gift is unavoidable, they are instructed to return it themselves or send it to the Ethics Secretariat. Gifts that cannot be returned are auctioned off, and the proceeds are donated to those in need.



Anti-Bribery Holiday Gifts Campaign

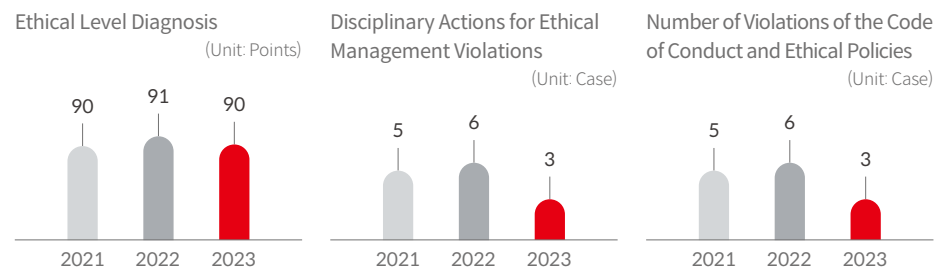
AUDITS FOR ETHICS MANAGEMENT

LOTTE E&C employs a range of audit systems such as regular audits, guidance audits, on-site completion audits, departmental thematic audits, and special audits, to ensure fairness and ethics in its operations. We particularly focus on enhancing employees' ethical awareness and creating a culture of responsible corporate card use through ongoing preventive audits that continuously monitor corporate card activity.

COMPLYING WITH LAWS AND REGULATION FOR ETHICAL MANAGEMENT

LOTTE E&C adheres strictly to ethics laws and regulations in all business activities to promote transparent and fair management. We actively prevent and monitor legal and regulatory violations by internalizing our ethical management policies and operating a confidential Cyber Ombudsman program. In the event of violations, we take disciplinary actions to prevent recurrence and reinforce our commitment to ethical practices.

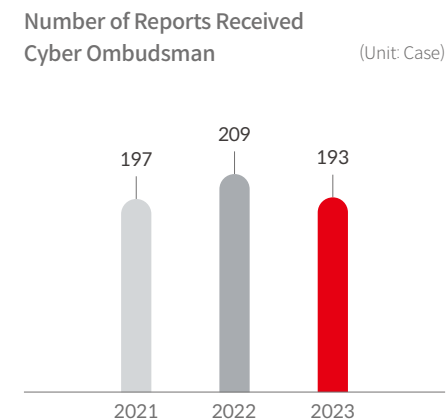
Key Achievements in Compliance with Ethical Management Laws and Regulations



CYBER OMBUDSMAN

LOTTE E&C operates a Cyber Ombudsman system to manage and supervise cases of ethical management violations, address inquiries about ethical practices, and highlight issues related to ethics and compliance. We receive and address reports from both employees and external stakeholders, including partners and residents of LOTTE Castle. On average, we respond to these reports within 10 days. In 2023, a total of 193 reports related to ethical management was received and 247 issues identified through on-site audits were resolved.

LOTTE E&C Cyber Ombudsman

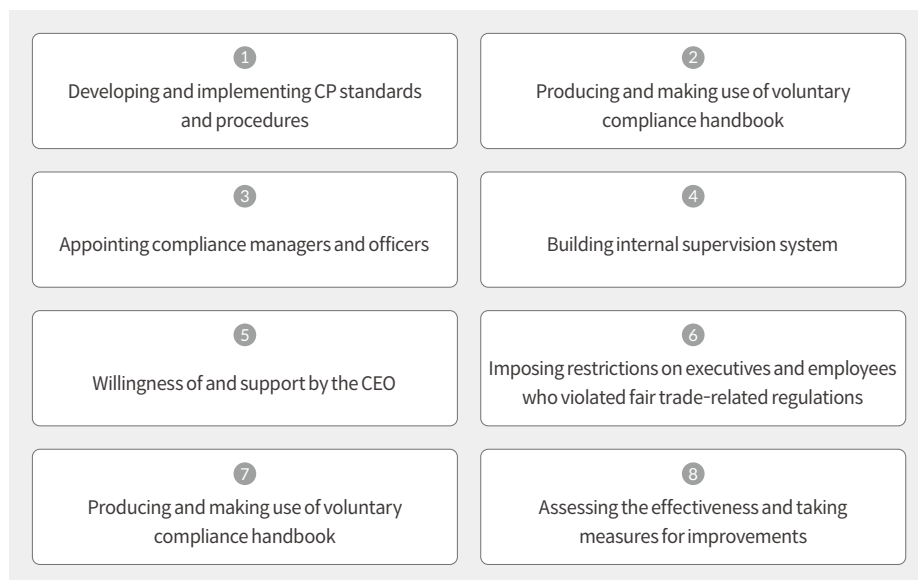


COMPLIANCE

COMPLIANCE PROGRAM

Since 2018, LOTTE E&C has actively addressed compliance risks by establishing a dedicated compliance team within the Legal Affairs Department. Annually, we collect compliance pledges from all employees to heighten awareness and provide a comprehensive compliance manual with detailed guidelines. This manual assists employees in adhering to all laws and regulations related to the company's business activities and managing associated risks. We report the outcomes of employee training and compliance program operations to the Board of Directors on a quarterly basis and regularly review and update the Code of Conduct. In 2023, we refined the Compliance Manual by specifying relevant departments according to risk and updating task-specific checklists. We will continue to develop our compliance program to enhance the legality of our employees' business conduct and prevent illegal or wrongful acts.

Eight Key Factors of Compliance Program



AA-RATED COMPLIANCE PROGRAM (CP)

In 2023, LOTTE E&C received an excellent grade (AA) in the "Compliance Program (CP)" conducted by the Korea Fair Trade Commission (KFTC). The KFTC evaluates companies annually on their implementation of compliance programs and awards differential incentives based on operational status and performance. The Company was honored with the top rating for its robust compliance programmes, including appointing a compliance manager, issuing the Compliance Manual, establishing a guide for employee behavior, operating the Compliance Council and whistleblowing system, and managing the personnel sanctions and incentive system. Moreover, we continuously monitor our anti-bribery management systems, ISO 37001, which we obtained in 2022, to ensure the maintenance of this certification.



2023 Compliance Program (CP) Award Ceremony

COMPLIANCE MANAGEMENT

MAINTAINING ANTI-CORRUPTION MANAGEMENT SYSTEM CERTIFICATION

LOTTE E&C was certified to the international standard ISO 37001 (Anti-Corruption Management System) in October 2022 for its systematic approach to compliance risk management and has successfully maintained this certification. The Company conducts corruption risk assessments across all departments. In 2023, it evaluated 89 teams and 298 tasks. The results showed “zero case of non-conformities” and the “five recommendations for improvement”, all of which were promptly addressed. In an effort to ensure continued compliance and avoid a recurrence, we report the operation plan and status of the anti-corruption management system (ISO 37001) to the Board of Directors on a yearly basis.



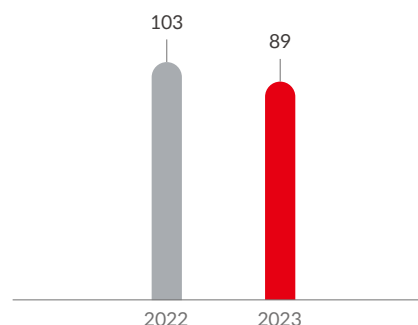
ISO 37001 certification

ASSESSING CORRUPTION RISK

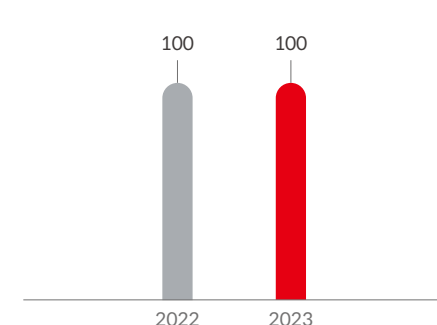
LOTTE E&C manages and evaluates corruption risk by categorizing it into four compliance risk areas, as outlined in the Compliance Business Regulations. These areas include the “Regulation on the Procedure of Risk Assessment” and the “Regulation on the Person in Charge of Risk Assessment, Work Procedure, Management and Response, and Improvement Measures,” in line with the Corruption Risk Management System Manual. In 2023, we completed corruption risk assessments for all 89 teams at headquarters using the ERP system. We analyze identified corruption types and causes, related laws and risks, and develop both financial and non-financial control measures and management goals. Corruption risks are categorized as high, medium, or low severity, with departments identified as “high risk” required to implement additional countermeasures. The results of these assessments are reported to the Anti-Corruption Officer and the Board of Directors, and are used to enhance our corruption risk management strategies.

Status of Corruption Risk Assessment

Number of Business Sites (Departments) That Conducted Corruption Risk Assessments¹⁾
(Unit: Number)



Percentage of Business Sites That Conducted Corruption Risk Assessments
(Unit: %)



¹⁾ The number of departments decreased in 2023 due to organizational restructuring.

ESTABLISHING AN INTERNAL CONTROL SYSTEM

In an effort to comply with the Fair Trade Act and mitigate the risk of legal violations, LOTTE E&C has implemented a comprehensive internal control system. For transactions between affiliates, we adhere to established internal procedures. Specifically, when entering into single-sourced contracts, we review the actual role in the transaction, its necessity, and the progress of negotiations through an internal transaction checklist. The Company also performs an annual internal audit of fair recruitment practices to ensure procedural integrity in recruitment processes, including promotion, document screening, interviews, reputation checks, and candidate selection. We are required to report fair trade-related matters to the Board of Directors on a quarterly basis. To boost a transparent and fair corporate culture, our compliance regulations prohibit donations to businesses with political or religious agendas, focusing instead on charitable and public purposes.

COMPLIANCE MANAGEMENT

MONITORING COMPLIANCE RISK

LOTTE E&C conducts monthly monitoring on compliance risk at sites with a high risk of violating the Fair Transactions in Subcontracting Act. In 2023, we completed monitoring a total of 36 sites. To enhance compliance practices, the Company incorporates monitoring results into BSC¹⁾ assessments and key performance indicators (KPIs) for headquarters. We also provide targeted education on subcontracting laws to high-risk groups. Additionally, we have established an ERP system that enables sites to perform their own risk assessments and mandates monthly compliance risk checks.

1) Balanced Score Card: A system that manages performance through KPIs derived from financial, customer, internal process, and learning and growth perspectives to achieve the organization's vision and strategic goals.

COMPLIANCE EDUCATION AND TRAINING

LOTTE E&C publishes a monthly "CP TIMES" to keep all employees informed about fair trade and anti-corruption issues. We also designate the company's founding anniversary as "CP Day" to enhance compliance awareness among employees. To manage and educate compliance systematically, the Company has launched a compliance education web site since April 2023. Through this platform and internal bulletin boards, we provided a total of nine education and training (E&T) sessions throughout the year. In addition, we provided targeted E&T on the Fair Transactions in Subcontracting Act to high-risk groups and Fair Trade Act training to CEOs and executives.

300 Participants Completed E&T on Fair Transactions in Subcontracting Act

Completion rate **89%**

37 Participants Completed E&T on Fair Trade Act

Completion rate **100%**

Fair Trade E&T Status

Category	Unit	2021	2022	2023
Number of participants in fair trade E&T	Persons	-	3,493	3,991
Fair trade E&T hours	Hour	-	1	1
Number of legal actions for unfair trade practices	Case	0	1	0

REWARDING COMPLIANCE WORK

LOTTE E&C has a reward system in place to recognize excellence in compliance efforts. In 2023, we awarded sites for exceptional subcontract management, outstanding performance at headquarters, and the highest compliance training participation.

Compliance Award

Category	Award Results
Sites with outstanding management of subcontract	Awards given to 2 sites in each half of the year
Headquarters with outstanding management of subcontract	Awarded to 1 headquarters annually
Individuals with top compliance mileage	A total of 12 individuals

OPERATING COMPLIANCE OMBUDSMAN

LOTTE E&C runs the Compliance Ombudsman through the Compliance Office, which is a dedicated body for compliance management. The Company receives reports from various stakeholders, including employees and partners, via post, e-mail, and the company's website when compliance violations occur or are suspected. The issues reported include violations of the Fair Transactions in Subcontracting Act, the Fair Trade Act (such as unfair joint activities or trade practices), the Improper Solicitation and Graft Act, and other compliance-related laws and regulations. We ensure strict confidentiality of personal information and protect the whistleblower from any retaliation for reporting violations. Anonymous reports are also accepted and will be handled fairly and promptly, with results communicated to the reporter.

LOTTE E&C Cyber Ombudsman 

Corruption Case

Category	Unit	2021	2022	2023
Number of corruption cases	Case	6	4	3
Number of employees fired or disciplined due to corruption cases	Case	9	6	3
Number of contracts terminated with partners due to corruption cases	Case	0	0	0

INFORMATION PROTECTION

INFORMATION PROTECTION MANAGEMENT SYSTEM

To proactively address potential information security risks such as advanced hacking attacks, cyberterrorism, and personal data breaches, LOTTE E&C operates an Information Security Division under the direct supervision of the CEO. This Division includes the Security Enhancement Task Force, which conducts security inspections and information protection training both at headquarters and across various sites. The Company appoints qualified experts as Chief Information Security Officers (CISO) based on the operation guidelines of information security organization and revises its information protection policies and guidelines annually to stay current with the latest laws and regulations. To bolster personal data protection, the personal information manager provides a monthly report on data status to the Chief Privacy Officer (CPO) with the CISO's approval. In 2023, we implemented 12 improvement activities to enhance personal information security. In 2024, we plan to voluntarily participate in an information protection disclosure organized by the Ministry of Science and ICT. This initiative will showcase our investments, personnel, and activities in information protection, aiming to build corporate trust and prevent incidents.

2023 Information Security Achievements

Main activity	Achievements
Enhanced the Information Protection Committee's Activities	Conducted quarterly reviews and decision-making under the participation of the CEO.
Strengthened home network security	Established an integrated security system for home networks to address tablet hacking issues.
Implemented MS Teams security measures	Introduced security enhancements and monitoring in response to the expanded use of MS Teams.
Enhanced security inspections at business sites	Operated a dual information protection inspection system at business sites.
Improved management of on-site and overseas PCs	Introduced an automated inspection solution to strengthen the management of on-site and overseas PCs.

ENHANCING ACTIVITIES OF THE INFORMATION PROTECTION COMMITTEE

In alignment with "Article 4 of the Personal Information Protection Act" and "LOTTE Group Information Protection Regulations," LOTTE E&C operates the Information Protection Committee to deliberate and make decisions on significant information protection matters. The committee includes key executives such as the Head of Strategic Planning Division, the Chief Information Security Officer (CISO), and the Chief Privacy Officer (CPO), along with other designated employees and the head of the relevant department. To support the committee's activities, we have changed the reporting method from a separate report to the CEO to direct attendance by the CEO. We have also increase the frequency of committee's meetings to once a quarter to address topics such as information protection issues, promotion plans, performance, investment budgets, and security adequacy reviews. On top of this, a dedicated working committee for information protection conducts practical reviews and establishes implementation plans, meeting regularly on a quarterly basis.

Regular Meetings for Information Security



Information Protection Committee:
Held quarterly

Information Security Practical
Committee:
Held quarterly

Group Information Security Practical
Committee:
Held quarterly

Korea CISO Council:
Held monthly

2023 Key Information Protection Initiatives

Establish a customer personal information management system and strengthen activities to prevent security incidents.



Strengthen the management of
customer personal information.

- Respond to ISMS-P re-certification audits to continuously improve personal information management
- Conduct on-site inspections on contractors processing personal information.
- Strengthen personal information disposal management



Enhance on-site and business
office management.

- Strengthen security management at sales and rental offices.
- Strengthen home network security for new and ongoing projects.
- Operate solutions to enhance on-site PC security.



Increase efforts to prevent
information security incidents.

- Enhance Group ESG information protection KPIs
- Enhance information protection training
- Continuously strengthen security monitoring to prevent breach incidents.

INFORMATION PROTECTION

CUSTOMER PRIVACY POLICY

LOTTE E&C collects only the essential personal information necessary for the intended purpose and posts the privacy policy on the LOTTE Castle and Eyles (private rental housing asset management platform) websites. When sharing personal information with third parties, we obtain consent and provide clear notification in cases of consignment. Furthermore, we diligently support requests for deletion or correction of personal information from data subjects. The Company conducts monthly status checks on the personal information processing department to oversee the management system across various stages such as application, sales and leasing, move-in, defect management, and customer inquiries. Compliance is annually verified through the Lotte Group Information Protection Inspection and the ISMS-P certification audit by the Korea Internet & Security Agency (KISA).

MAINTAINING ISMS-P CERTIFICATION

In August 2022, LOTTE E&C became the first company in the construction industry to achieve ISMS-P certification for its personal information management system, enhancing the safety and reliability of our information protection and privacy practices. This certification encompasses the management of customer information and our private rental housing asset management platform (Eyles), as well as employee personal information. It ensures comprehensive management of personal information throughout the entire lifecycle from application and sale (or lease) to post-management and eventual destruction.

REVISING INFORMATION PROTECTION REGULATION

To align with the amendments to the Personal Information Protection Act and the Information and Communications Network Act, LOTTE E&C has enacted and revised one information protection regulation and 13 guidelines twice. Whenever we update our information protection management regulations and guidelines, we conduct company-wide online training and notify employees through the regulation bulletin board.

Amendments to Information Protection Regulations in 2023

Amendments to the Personal Information Protection Act

- Reflected new compliance requirements due to the integration of online and offline regulations.
- Expanded information protection inspections and training for personal information subcontractors.
- Implemented new regulations for indicating the filming of portable video information processing devices and posting operation and management policies.

Reflecting Workplace Environment

- Designated new information protection control zones.
- Reflected protective measures such as disabling chat record mode for AI applications.

ESTABLISHING AN INTEGRATED HOME NETWORK SECURITY SYSTEM

In an effort to address concerns about hacking and privacy invasions related to apartment home network wall pads, LOTTE E&C has established an integrated home network security system. Aiming to build an industry-leading home network security system that ensures customer peace of mind, we have updated our specifications to include legal requirements such as network separation and are developing optimal security solutions for wall pad construction, network separation, intrusion detection, and integrated control. From March 2022 to February 2023, executives and team leaders from related departments reviewed home network improvement strategies in regular meetings. In 2023, we enhanced the security status at 22 work sites either completed or under construction and validated these improvements through a demonstration complex. LOTTE E&C will continue to invest in integrated home network security systems and technologies to ensure responsible and secure construction practices.

Improving Home Network Security System

Phase 1: Enhance Security at Ongoing/Completed Sites

2023

Improved security at 22 completed and ongoing sites.
Applied to the Lotte Castle and LE-EL network separation demonstration (Shinbanpo 13th, Jayang Section1).

2024

Improved security at 23 active sites.
Applied network separation security at nine sites.

Phase 2: Establish an Integrated Home Network Security System (Innovate Responsible Construction)

Revise specifications

Enhanced legal requirements and additional supplements (April 2023).

Apply to new sales

Applied to Lotte-specific wall pad model houses (August 2023).

Implement integrated home network security

Will apply wall pad installation, network separation, intrusion detection, and integrated control from 2025 onwards.



Strengthen home network security.

Network separation VPNs between units, IoT security sensors, web firewalls, security monitoring services, and server antivirus/anti-ransomware.

INFORMATION PROTECTION

INTRODUCING CLOUD DOCUMENT ENCRYPTION SECURITY SYSTEM

In April 2023, LOTTE E&C embarked on a transformative journey by introducing a cutting-edge cloud-based document encryption security system (AIP), aimed at enhancing both work efficiency and security. This innovative system has paved the way for a secure work environment accessible anytime and anywhere, while maintaining robust document security protocols. Previously, internal security constraints rendered it impossible to co-edit documents or detect personal information using the cloud. However, with the advent of system dualization, we have surmounted these challenges, now enabling cloud document browsing, co-editing, and personal information detection. Furthermore, through diligent daily monitoring of information exports, we vigilantly check for abnormalities, swiftly responding to any signs of information leakage to effectively mitigate risks.

INFORMATION SECURITY BREACH RESPONSE DRILLS

LOTTE E&C places higher priority on preparedness and resilience in the face of potential cyber threats by conducting biannual information security breach response drills. In the first half of 2023, our drills focused on the lease management website and LOTTE E&C's official website in the second half. These exercises were designed to verify that our response systems are robust and that each team member is well-acquainted with their roles and responsibilities during a breach. Additionally, we carried out eight mock virus drills throughout the year to enhance our employees' vigilance against malicious emails. These drills involved sending random email samples to test whether attachments were downloaded and executed, with an observed average infection rate of 2.9% among employees. They were asked to submit a letter of explanation and to complete separate education. Looking ahead to 2024, the Company plans to invigorate our training approach by incorporating diverse educational materials, including short-form videos and webcomics productions, to further increase employee awareness and best practices.

STRENGTHENING INFORMATION PROTECTION AWARENESS

Employee Information Protection Training

To foster a culture of security, LOTTE E&C conducts comprehensive information protection awareness training for all employees, adhering to the Group's administrative protection guidelines and our human security guidelines. To increase participation in the training, the Company offers online training that can be completed irrespective of location and time. This initiative saw an impressive 98.8% (4,628) employee participation rate, marking an increase of 386 participants from the previous year. The content of training program encompasses a message from the President, insights into information protection issues and accident cases, activities to bolster (personal) information protection management, an overview of the information protection system, and guidelines on trade secret protection. The training satisfaction rate went up to 4.33 out of 5, reflecting an improvement of 0.13 points from the previous year. For those who did not complete the training (58 individuals), we collected letters of explanation, deducted information protection KPIs for their respective departments, and ensured they completed additional training. Our commitment to enhancing security awareness is unwavering, supported by a continuous online training system for new hires, seasoned employees, and those handling customer personal information.

Personal Information Protection Education and Training

To raise awareness and prevent security breaches, LOTTE E&C conducts mandatory annual training for personal information handlers to enhance awareness of their management and supervision duties, including legal protection measures at each stage of personal information processing and examples of security incidents. The Company held five training sessions specifically for teams in charge of handling personal information in the Housing Division and the Architecture Division, with a remarkable attendance of 240 personnel which was 159% of our initial target. We require personal information handlers to complete a minimum of eight hours of training annually, reflecting the outcomes in our information protection activity index (KPI). We also provide qualification allowances to employees who achieve specialized personal information protection certifications, thereby supporting their professional development. As of December 2023, we proudly have 104 employees with specialized personal information protection certifications. To further reinforce our commitment, we plan to impose stricter penalties for non-compliance with training requirements, including reductions in departmental information protection KPIs.

INFORMATION PROTECTION

Regular Security Checks

LOTTE E&C performs regular security inspections at sales offices (show houses) that handle customers' personal information. We focus on verifying compliance with information protection and assessing the handling of personal information at new sales offices. As part of our security incident prevention efforts, we review each individual's PC using an information protection checklist, evaluate document management practices by individual and department, and inspect overall office security. In 2023, the Company inspected a total of 23 new offices, achieving an average score of 93. Offices with average or below-average scores received follow-up reports detailing the implementation of corrective measures.

Recognizing excellence management in customer personal information

LOTTE E&C conducts thorough inspections and evaluations of its information protection activities at sites handling personal information, honoring departments that excel in safeguarding personal data with certificates of commendation. In 2023, the KT site in Guui Station Area's Sphere of influence and Urbani L leasing operations office were distinguished as leaders in personal information management. We are dedicated to continuously improving our practices to maintain the highest levels of customer trust and prevent any potential information breaches.



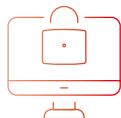
Awarding excellence management in customer personal information

Information Protection Investments

LOTTE E&C is increasing its investments in information protection to address evolving regulations and laws and to enhance our corporate responsibility in safeguarding stakeholders' personal information. In 2023, the Company focused on investing in the management of key assets, validating security investments for their effectiveness, and ensuring that no assets become obsolete.

Ratio of Information Protection Investment to IT Technology Investment in 2023

5.0%

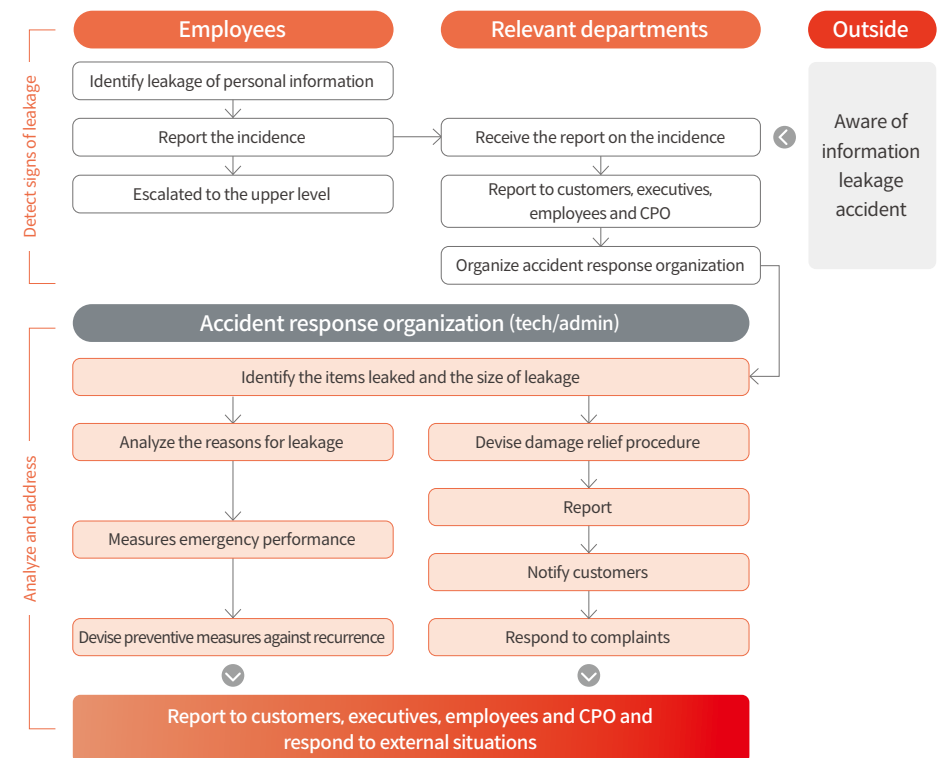


OPERATING INCIDENT REPORT CENTER

All employees at LOTTE E&C must promptly notify the Information Security Division if they detect any information security breaches, encounter suspicious circumstances, or experience the leakage or loss of critical information assets outside the company, as outlined in the Incident Response Guidelines for Information Security Breach. If an employee receives a virus or suspected spam emails unrelated to their work, they should report it to the designated spam email account. Additionally, if an employee identifies an internal information leak, they can submit a report through the LOTTE E&C Cyber Ombudsman. All reports are swiftly addressed and managed in accordance with relevant regulations.

LOTTE E&C Cyber Ombudsman

Response Procedures for Personal Information Leakage





ESG DATA BOOK

LOTTE E&C transparently discloses its sustainability performance to all stakeholders by providing accurate and detailed data on its economic, environmental, social, and governance activities.

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ECONOMIC DATA

ECONOMIC DATA

CONSOLIDATED FINANCIAL STATEMENT

Category	Unit	2021 ¹⁾	2022	2023
Revenue	KRW million	5,701,112	5,944,331	6,811,105
Operating income	KRW million	493,695	360,842	259,509
Net income (Net loss)	KRW million	219,998	74,474	55,363
Earning per share	KRW	6,837 ²⁾	2,311	1,659
Current assets	KRW million	3,854,462	6,828,602	6,197,736
Non-current assets	KRW million	1,629,669	2,750,700	2,659,495
Total assets	Total	KRW million	5,484,131	9,579,302
Current liabilities	KRW million	2,167,882	5,773,956	5,101,429
Non-current liabilities	KRW million	702,755	1,179,769	1,114,301
Total liabilities	Total	KRW million	2,870,637	6,953,724
Capital	KRW million	215,588	207,193	207,193
Capital surplus	KRW million	1,122,618	-	-
Other contributed equity ³⁾	KRW million	-	961,628	961,628
Accumulated Other Comprehensive Income	KRW million	60,453	(1,571)	2,577
Other Components of Equity	KRW million	-	48,463	48,463
Non-controlling Interest	KRW million	51,208	62,030	60,174
Retained earnings, etc.	KRW million	1,163,627	1,347,834	1,361,466
Total Capital	Total	KRW million	2,613,494	2,625,577
Total liabilities and capital		KRW million	5,484,131	9,579,302

1) The 2021 financial information was prepared in accordance with K-GAAP accounting standards, and K-IFRS accounting standards have been applied from 2022.

2) Data has been revised due to changes in calculation basis.

3) From 2022, capital surplus has been managed as other paid-in capital according to K-IFRS accounting standards.

SEPARATE FINANCIAL STATEMENTS

Category	Unit	2021 ¹⁾	2022	2023
Revenue	KRW million	5,690,160	5,931,343	6,800,560
Operating income	KRW million	497,239	365,773	272,266
Net income (Net loss)	KRW million	219,713	92,169	60,469
Earning per share	KRW	6,828	2,860	1,796
Current assets	KRW million	3,548,386	6,610,127	5,988,797
Non-current assets	KRW million	1,831,831	2,919,718	2,820,194
Total assets	Total	KRW million	5,380,217	9,529,845
Current liabilities	KRW million	2,127,304	5,766,710	5,092,551
Non-current liabilities	KRW million	690,626	1,178,274	1,112,944
Total liabilities	Total	KRW million	2,817,930	6,944,958
Capital	KRW million	215,588	207,193	207,193
Capital surplus	KRW million	1,122,618	-	-
Other contributed equity ³⁾	KRW million	-	961,628	961,628
Accumulated Other Comprehensive Income	KRW million	59,991	6,740	7,096
Other Components of Equity	KRW million	-	48,463	48,463
Non-controlling Interest	KRW million	1,164,090	1,360,837	1,379,117
Total Capital	Total	KRW million	2,562,286²⁾	2,584,860
Total liabilities and capital		KRW million	5,380,217	9,529,845

1) The 2021 financial information was prepared in accordance with K-GAAP accounting standards, and K-IFRS accounting standards have been applied from 2022.

2) Data has been revised due to changes in calculation basis.

3) From 2022, capital surplus has been managed as other paid-in capital according to K-IFRS accounting standards.

ECONOMIC DATA

CREATION OF ECONOMIC VALUES

Category	Unit	2021	2022	2023
Employees salaries	KRW million	386,825 ¹⁾	390,611	418,842
Welfare expenses	KRW million	94,019 ¹⁾	112,314	117,698
Outsourcing partners (Outsourcing expenses) ²⁾	KRW million	3,029,704	2,826,391	3,472,552
Material suppliers (Material costs) ²⁾	KRW million	1,006,772	1,016,849	1,444,338
Ratio of purchases paid to all partners ²⁾	%	100	100	100
Shareholders (Dividends)	KRW million	42,957	-	-
Government (Corporate tax)	KRW million	103,503 ¹⁾	77,043	32,113
Local communities (Donations, charity expenses, investment)	KRW million	4,267	4,542	3,706 ³⁾
Creditors (Interest)	KRW million	27,765 ¹⁾	93,375	172,087

1) Calculation basis: K-GAAP Standard.

2) Calculation basis: The cost of purchases made by Lotte E&C's domestic headquarters to local domestic companies based on domestic business sites.

3) Calculation basis: "Donation" amount from the Business Report + matching grant donations received from employees.

ECONOMIC DATA

RESEARCH AND DEVELOPMENT

Category	Unit	2021	2022	2023
Patent registrations ¹⁾	Cases	2	2	8
Technology development service expenses	KRW million	16,290	20,442	26,780
Exclusive technology development expenses	KRW million	7,587	7,165	8,005
Total R&D investment	KRW million	23,877	27,607	34,785
Green R&D investment ²⁾	KRW 10,000	18,878	22,103	32,596

1) 2021(Organic waste treatment device and method, dry exterior insulation construction technology without thermal bridges (TIFUS method)).

2022(Homogeneous mass damper structure with resonance-type sound absorption to reduce floor impact noise, AI-based safety review for mudguard facilities).

2023 (Tunnel dust removal device, rotary inner-insertion clip for reducing thermal bridges in dry wall stud structures, indoor smart farm using high-concentration CO₂ and its control method, corrosion-resistant elevator pit structure for material and time efficiency, high-durability blast furnace slag cement additive and concrete, eco-friendly concrete durability enhancer, hydraulic n-cyanate ester polymer resin for semi-noncombustible flooring, waterproof elastic coating with silicone for composite water-proofing).

2) Calculation basis: Research grants for eco-friendly projects at the Technology Research Institute.

ECO-FRIENDLY R&D INVESTMENT GOALS

Category	Unit	2024	2025	2026
Three-year eco-friendly R&D investment goals	KRW 10,000	90,000	100,000	110,000

RESPONSIBLE CONSUMPTION PRODUCT STRATEGY AND SALES

Category	Unit	2021	2022	2023
Sales of Sustainable Products ¹⁾	KRW million	1,037,011	829,933	1,502,415

1) Calculation basis: Referred to K-Taxonomy Standards.

SUSTAINABLE BOND ISSUANCE

Category	Unit	2021	2022	2023
Total amount of sustainable bonds issued ¹⁾	KRW million	40,000	40,000	40,000
Green Bonds	KRW million	30,200	30,200	30,200
Social Bonds	KRW million	9,800	9,800	9,800

1) Calculation basis: Based on the 136-2nd public bond issuance (KRW 30.2 billion in green bonds used for environmental improvement projects, and KRW 9.8 billion in social bonds).

ENVIRONMENTAL DATA

ENVIRONMENTAL MANAGEMENT CERTIFICATIONS AND VERIFICATIONS

Category	Unit	2021	2022	2023
Percentage of Environmental management systems(ISO 14001) certified worksites ¹⁾	%	100	100	100
Number of accumulated green building certification projects ²⁾	Projects	108	124	132 ²⁾

1) Scope of Calculation: Domestic business sites (certification renewed annually).

2) Number of projects that have obtained this certification in 2023: A total of 8 projects (6 Housing, 2 Architecture).

GREEN PROCUREMENT STATUS

Category	Unit	2021	2022	2023
Total Purchases of Eco-Friendly Certified Products	KRW million	55,409	58,558	67,125
HB Mark	KRW million	1,966	12,293	7,916
ECO Mark	KRW million	26,756	6,824	34,449
High-efficiency energy equipment	KRW million	5,401	3,845	3,792
GR Mark	KRW million	2,209	1,023	1,475
Energy Efficiency Rating 1, 2	KRW million	18,946	34,573	19,493
Saving energy	KRW million	130	0	0

ENVIRONMENTAL COMPLIANCE¹⁾

Category	Unit	2021	2022	2023
Fines related to the environment or ecology due to non-compliance with environmental laws and regulations	KRW million	0	0	0
Non-monetary sanctions related to the environment or ecology due to non-compliance with environmental laws and regulations	Cases	0	0	0
Disclosure of details on violations of environmental laws and regulations	Incidents raised through dispute resolution mechanisms	0	0	0
Number of compliance violations related to environmental permits, standards, and regulations	Cases	0	0	0

1) Calculation basis: Those handed by corporates

EMPLOYEE ENVIRONMENTAL MANAGEMENT TRAINING PERFORMANCE

Category	Unit	2021	2022	2023
Number of participants in environmental training	Persons	93	123	115
Environmental training hours	Hours	279	369	345
Environmental training hours per person	Hours	3	3	3

ENVIRONMENTAL DATA

GREENHOUSE GAS EMISSIONS

Category	Unit	2021	2022	2023
Total GHG emissions	tCO ₂ eq	42,560	47,056	45,373
Direct GHG (Scope 1) emissions	tCO ₂ eq	6,577	9,029	8,371
Indirect GHG(Scope 2) emissions	tCO ₂ eq	35,983	38,027	37,002
GHG emissions intensity¹⁾	tCO ₂ eq/KRW billion	7.47	7.93	6.67
Base unit change rate	%	(7.4)	6.2	(15.9)
Total reduction of GHG emissions	tCO ₂ eq	4,993	3,146	3,497
Reduction of direct GHG (Scope 1) ²⁾	tCO ₂ eq	4,839	3,007	3,307
Reduction of indirect GHG(Scope 2) ³⁾	tCO ₂ eq	154	139	185
Percentage of worksites disclosing GHG emissions data	%	100	100	100

1) Calculation basis: Consolidated annual sales.

2) Calculation basis: Scope 1 emission reductions achieved through the implementation of plans and activities to reduce GHG emissions compared to the 2020 baseline (e.g., GHG reduction from fuel replacement in concrete curing).

3) Calculation basis: Scope 2 emission reductions achieved through the implementation of plans and activities to reduce GHG emissions compared to the 2018 baseline (e.g., GHG reduction from replacing headquarters building lighting with LEDs).

OTHER INDIRECT GREENHOUSE GAS EMISSIONS

Category	Unit	2023
Total other indirect GHG (Scope 3) emissions	tCO ₂ eq	2,171,066
Upstream		
Purchased products and services	tCO ₂ eq	1,169,373
Upstream transportation and logistics	tCO ₂ eq	28,556
Downstream		
Use of sold products	tCO ₂ eq	949,847
Disposal of sold products	tCO ₂ eq	23,290

ENERGY USAGE

Category	Unit	2021	2022	2023
Total energy usage	TJ	856.12	940.03	907.59
Energy usage base unit¹⁾	TJ/KRW billion	0.15	0.16	0.13
Base unit change rate	%	(6.25)	6.7	(18.75)
Renewable energy	TJ	0	0	0
Total non-renewable energy usage internally	TJ	856.12	940.03	907.59
Total renewable energy usage internally	TJ	0	0	0
Total indirect energy consumption	TJ	752.48	797.90	775.35
Electric power	TJ	750.38	785.89	766.00
Steam	TJ	2.10	12.01	9.34
Total direct energy consumption	TJ	103.66	142.13	132.24
LNG	TJ	24.59	33.25	32.88
Brown coal	TJ	0	0	0
Kerosene	TJ	61.00	88.24	83.79
Diesel	TJ	13.45	17.97	13.87
Gasoline	TJ	4.07	2.45	1.61
LPG (Vehicle)	TJ	0.39	0	0
LPG (Liquefied petroleum gas)	TJ	0.16	0.21	0.09
Total energy consumption cost	KRW 100 million	133.59	165.63	215.10
Percentage of worksites disclosing energy consumption data	%	100	100	100
Total energy reduction²⁾	TJ	46.04	17.94	22.61
Percentage of zero-emission vehicles	%	0	0	0

1) Calculation Basis: Consolidated annual sales for the given year.

2) Calculation Basis: Energy savings directly achieved through the implementation of conservation or efficiency plans and activities.

ENVIRONMENTAL DATA

WASTE GENERATION¹⁾

Category	Unit	2021	2022	2023
Total waste generation	ton	589,348	629,625	578,386
Base unit waste generation ²⁾	ton/KRW billion	103.37	105.93	84.92
Base unit change rate	%	13.00	2.47	(19.83)
Total amount of hazardous waste recovered	ton	0	0	0
Total amount of non-hazardous waste recovered	ton	586,529	629,134	578,154
Recycled ³⁾	ton	586,529	629,134	578,154
Waste recycling rate	%	99.52	99.92	99.96
Total amount of non-hazardous waste disposed	ton	2,819	491	232
Incinerated (energy recovered)	ton	904	483	225
Incinerated (energy not recovered)	ton	0	0	0
Landfilled	ton	1,915	8	7
Percentage of worksites disclosing waste generation data	%	100	100	100

1) Scope of calculation: Domestic business establishments.

2) Calculation Basis: Consolidated annual sales for the given year.

3) Calculation Basis: In accordance with the Construction Waste Recycling Promotion Act.

WASTE GENERATION BY TYPE

Category	Unit	2021	2022	2023
Waste concrete	ton	146,616	166,928	403,682
Mixed construction waste	ton	214,598	304,817	95,970
Construction waste soil	ton	24,639	64,720	38,296
Waste asphalt concrete	ton	12,560	17,788	5,856
Waste wood	ton	12,587	8,518	8,726
Waste synthetic resins	ton	6,189	7,608	8,386
Construction sludge	ton	169,250	57,484	16,363
Waste boards	ton	2,823	1,374	1,053
Tile/Ceramic waste	ton	163	379	0
Other waste	ton	1	8	7
Textile waste	ton	3	0	0
Brick waste	ton	0	0	45

ENVIRONMENTAL DATA

MATERIAL USAGE¹⁾

Category		Unit	2021	2022	2023
Non-renewable raw materials	Ready-mixed concrete	m ³	2,891,091	1,858,288	2,432,315
	Cement	ton	476,804	31,113	37,970
	Aggregates	m ³	266,364	209,222	170,745
	Asphalt concrete	ton	57,187	55,322	34,843
	Sand	m ³	12,051	8,628	12,900
	Rebar	ton	481,369	146,156	233,784
	Plaster board	Boards	3,337,733	2,619,627	2,304,480
Recycled raw materials	Recycled aggregates ²⁾	m ³	1,630	3,615	3,546
Percentage of recycled raw materials used ³⁾		%	0.6	1.7	2.0

1) Scope of calculation: Includes activities at overseas business sites.

2) Calculation basis: Aggregates treated physically or chemically from construction waste to meet the quality standards in Article 35 of the Construction Waste Recycling Promotion Act.

3) Calculation Method: (Recycled aggregate / (Recycled aggregate + aggregate)) * 100.

WATER USAGE¹⁾

Category	Unit	2021	2022	2023 ²⁾
Total water usage	Million ton	695,165	705,877	558,596

1) Scope of calculation: For domestic operations.

2) Calculation basis: Excludes on-site rental accommodation water usage starting from 2023.

WATER INTAKE¹⁾

Category		Unit	2021	2022	2023 ²⁾
Total water intake from all worksites		Million ton	695,165	705,877	558,596
Water intake (consumption) by water source	Surface water	Million ton	0	0	0
	Groundwater	Million ton	102,811	127,555	140,910
	Seawater	Million ton	0	0	0
	Produced water (municipal water)	Million ton	592,354	578,322	417,686
	From third parties	Million ton	0	0	0
	Freshwater	Million ton	0	0	0
	Other water sources	Million ton	0	0	0

1) Scope of calculation: For domestic operations.

2) Calculation basis: Excludes on-site rental accommodation water usage starting from 2023.

WASTEWATER DISCHARGE¹⁾

Category	Unit	2021	2022	2023 ²⁾
Total amount of wastewater discharge	Million ton	-	-	-

1) No wastewater discharge under the Company's responsibility.

SOCIAL DATA

EMPLOYEES STATUS

Category			Unit	2021	2022	2023
Total number of employees			Persons	3,568	3,932	4,031
Number of employees	Under 30		Persons	331	408	405
	30~50		Persons	2,543	2,714	2,769
	Over 50		Persons	694	810	857
	Female	Number	Persons	342	410	437
	Female	Percentage	%	9.6	10.4	10.8
	Male	Number	Persons	3,226	3,522	3,594
	Male	Percentage	%	90.4	89.6	89.2
	Female	Regular	Persons	244	286	308
	Female	Contract	Persons	98	124	129
	Male	Regular	Persons	2,351	2,499	2,556
	Male	Contract	Persons	875	1,023	1,038
Number of workers managed outside of regular employees			Persons	-	-	-
Number of senior executives hired locally in key worksites	Domestic ¹⁾		Persons	70	58	59
	Overseas		Persons	0	0	0
Percentage of local senior managers in key worksites	Domestic ¹⁾		%	100	100	100
	Overseas		%	0	0	0

1) Calculation basis: Based on the executive status outlined in the Business Report.

STATUS BY COUNTRY¹⁾

Category			Unit	2021	2022	2023
Total in South Korea			Persons	3,447	3,657	3,702
Status by country	South Korea	Regular	Persons	2,477	2,623	2,703
	South Korea	Contract	Persons	970	1,034	999
	Indonesia	Regular	Persons	37	78	107
	Indonesia	Contract	Persons	1	102	166
	Vietnam	Regular	Persons	56	62	38
	Vietnam	Contract	Persons	2	7	2
	Japan	Regular	Persons	1	1	1
	Japan	Contract	Persons	0	0	0
	China	Regular	Persons	10	6	3
	China	Contract	Persons	0	0	0
	Pakistan	Regular	Persons	2	1	1
	Pakistan	Contract	Persons	0	0	0
	Russia	Regular	Persons	1	1	0
	Russia	Contract	Persons	0	0	0
	Malaysia	Regular	Persons	5	5	0
	Malaysia	Contract	Persons	0	3	0
	Cambodia	Regular	Persons	2	0	0
	Cambodia	Contract	Persons	0	0	0
	Singapore	Regular	Persons	4	4	6
	Singapore	Contract	Persons	1	1	0
	Philippines	Regular	Persons	0	3	5
	Philippines	Contract	Persons	0	0	0
	Hungary	Regular	Persons	0	1	0
	Hungary	Contract	Persons	0	0	0

1) Calculation basis: Number of employees based in the country.

SOCIAL DATA

EMPLOYEE RECRUITMENT STATUS

Category		Unit	2021	2022	2023
Total number of new workers		Persons	196	395	236
Number of new hires	Under 30	Persons	80	142	70
Percentage of new hires		%	40.8	35.9	29.7
Number of new hires	30~50	Persons	115	252	165
Percentage of new hires		%	58.7	63.8	69.9
Number of new hires	Over 50	Persons	1	1	1
Percentage of new hires		%	0.5	0.3	0.4
Number of new hires	Female	Persons	41	61	39
Percentage of new hires		%	20.9	15.4	16.5
Number of new hires	Male	Persons	155	334	197
Percentage of new hires		%	79.1	84.6	83.5
Number of new hires	Domestic	Persons	196	395	232
Percentage of new hires		%	100	100	98.3
Number of new hires	Overseas	Persons	0	0	4
Percentage of new hires		%	0	0	1.7

EMPLOYEE TURNOVER STATUS¹⁾

Category		Unit	2021	2022	2023
Total number of employees turnover		Persons	69	132	98
Number of employees turnover	Under 30	Persons	17	31	14
Ratio of employee turnover		%	24.6	23.5	14.3
Number of employees turnover	30~50	Persons	48	96	78
Ratio of employee turnover		%	69.6	72.7	79.6
Number of employees turnover	Over 50	Persons	4	5	6
Ratio of employee turnover		%	5.8	3.8	6.1
Number of employees turnover	Female	Persons	9	19	16
Ratio of employee turnover		%	13.0	14.4	16.3
Number of employees turnover	Male	Persons	60	113	82
Ratio of employee turnover		%	87.0	85.6	83.7
Number of employees turnover	Domestic	Persons	69	132	93
Ratio of employee turnover		%	100	100	94.9
Number of employees turnover	Overseas	Persons	0	0	5
Ratio of employee turnover		%	0	0	5.1

1) Calculation basis: Excludes executive officers and advisory or registered advisory officers.

AVERAGE YEARS OF SERVICE

Category		Unit	2021	2022	2023
Average years of service of employees	Female	Years	5.7	5.5	5.9
	Male	Years	12.4	11.8	11.9

SOCIAL DATA

DEFINED BENEFIT PENSION PLANS AND OTHER RETIREE PENSION PLANS¹⁾

Category	Unit	2021	2022	2023
Number of registered members by type (DB)	Persons	2,710	2,740	3,160
Number of registered members by type (DC)	Persons	114	120	141
Number of registered members by type (DB+DC)	Persons	2,824	2,860	3,301

1) Calculation basis: Excludes individuals who have been with the company for less than one year from the roster base date, and calculates based on the member roster as of the first January 1st following the completion of one year of employment.

EMPLOYEE SALARY

Category			Unit	2021	2022	2023
Percentage of entry-level employee wages to the local minimum wage ¹⁾	New hires working at the organization's main worksites	Male	%	177	179	181
	New hires working at the organization's main worksites	Female	%	177	179	181
Ratio of basic salary of female to male employees ²⁾			%	100	100	100
Ratio of basic salary of female to male executives ³⁾		Female Executives	%	100	100	100

1) Calculation basis: Calculated the percentage of wages to the statutory minimum wage using the starting salary table for new employees at major domestic business sites.

2) Calculation basis: Compared basic salaries by gender for equivalent positions.

3) Calculation basis: Compared monthly compensation by gender for equivalent positions.

HUMAN RIGHTS RISK MANAGEMENT

Category		Unit	2021	2022	2023
Total number of discrimination cases	Number of discrimination cases	Cases	0	0	0
	Number of corrective acts for discrimination cases	Cases	0	0	0
Total number of major investment agreements and contracts including human rights clauses or human rights assessments		Cases	0	0	0
Percentage of major investment agreements and contracts including human rights clauses or human rights assessments		%	0	0	0

HUMAN RIGHTS IMPACT ASSESSMENT AND MONITORING¹⁾

Category	Unit	2021	2022	2023
Number of worksites subject to human rights impact assessment or review ²⁾	Sites	-	-	12
Percentage of worksites that have undergone human rights impact assessment or review in the past 3 years ³⁾	%	-	-	13.2

1) First implemented in 2023.

2) Scope of calculation: Applies to all 12 relevant departments at headquarters involved in human rights.

3) Calculation Method: (Number of departments conducting human rights impact assessments) / (Total number of departments).

HUMAN RIGHTS GRIEVANCE HANDLING STATUS¹⁾

Category	Unit	2021	2022	2023
Number of human rights grievances received from stakeholders	Cases	0	0	0
Number of resolved human rights grievances from stakeholders	Cases	0	0	0
Percentage of resolved human rights grievances from stakeholders	%	0	0	0
Number of discrimination and harassment cases ¹⁾	Cases	0	0	0

1) Calculation basis: Recorded as '0' because the company has not had any incidents meeting this criteria. The number of grievances reported to the grievance system was 19 in 2021, 23 in 2022, and 21 in 2023. These grievances are related to personal issues and the working environment, not human rights violations.

SOCIAL DATA

EMPLOYEES HUMAN RIGHTS TRAINING

Category		Unit	2021	2022	2023
Employee training on human rights policies and procedures related to business	Percentage of employees	%	93	98	99
	Training hours	Hours	6,652	7,714	7,734
Human rights training required	Sexual harassment prevention training	Persons	3,568	3,932	3,906
Human rights training completers	Sexual harassment prevention training	Persons	3,326	3,863	3,867
Human rights training required	Disability awareness improvement training	Persons	3,568	3,932	3,906
Human rights training completers	Disability awareness improvement training	Persons	3,323	3,851	3,867

LABOR RELATIONS MANAGEMENT AND MONITRING¹⁾

Category	Unit	2021	2022	2023
Percentage of employees covered by collective bargaining agreements	%	-	-	-
Minimum notice period for employees and labor unions regarding significant operational changes that have a significant impact on labor relations	Days	-	-	-

1) Not applicable, as the Company is a non-unionized one.

PARENTAL LEAVE UTILIZATION¹⁾

Category		Unit	2021	2022	2023
Number of employees taking parental leave	Total	Persons	69	47	54
	Female	Persons	5	4	3
	Male	Persons	64	43	51
Number of employees returning to work after parental leave	Total	Persons	80	80	70
	Female	Persons	4	8	3
	Male	Persons	76	72	67
Number of employees who returned to work after parental leave and continued to work for a year	Total	Persons	92	72	61
	Female	Persons	6	4	6
	Male	Persons	86	68	55
Return-to-work rate after parental leave	Total	%	98.2	98.1	97.1
	Female	%	71.4	83.3	96.2
	Male	%	75.0	77.6	87.3
Retention rate after parental leave	Total	%	74.6	78.6	89.5
Number of employees taking maternity leave	Total	Persons	8	21	12

1) Data corrected due to updates in the calculation basis.

SOCIAL DATA

EMPLOYEE DIVERSITY

Category		Unit	2021	2022	2023
Percentage of female among all employees		%	9.6	10.4	10.8
Percentage of male among all employees		%	90.4	89.6	89.2
Employee composition ratio	Under 30	%	9.3	10.4	10.0
	30~50	%	71.3	69.0	68.7
	Over 50	%	19.4	20.6	21.3
	Regular	%	72.7	70.8	71.0
	Contract	%	27.3	29.2	29.0
Number of female in managerial positions	Female in M grade and above (including executives, regular employees)	Persons	62	70	81
Percentage of female in managerial positions		%	1.7	1.8	2.0
Number of female executives		Persons	0	1	1
Percentage of female executives		%	0	2.1	2.3
Number of employees with disabilities		Persons	147	147	155
Percentage of employees with disabilities		%	4.1	3.7	3.8
Number of national veteran employees		Persons	53	55	55
Percentage of national veteran employees		%	1.5	1.4	1.4

EMPLOYEE EDUCATION

Category		Unit	2021	2022	2023
Average total education hours per employee		Hours	120	123	123
Average education hours per employee	Female	Hours	116	127	126
	Male	Hours	120	123	122
	Above M grade	Hours	117	122	122
	Below M grade	Hours	121	125	124
	Disabilities	Hours	112	114	115
	Foreigner	Hours	61	119	122
	Under 30	Hours	111	130	123
	30~50	Hours	124	126	127
	Over 50	Hours	99	101	107
Total education cost for employees		KRW million	3,042	4,533	4,214
Education investment cost per employee		KRW	852,687	1,152,943	1,078,853
Number of participants in annual education courses		Persons	3,568	3,932	3,906

EMPLOYEE PERFORMANCE MANAGEMENT

Category		Unit	2021	2022	2023
Regular performance management	Percentage of employees subject to regular performance evaluations	%	100	100	100
	Percentage of employees subject to comparative analysis evaluations	%	100	100	100

SOCIAL DATA

HEALTH AND SAFETY MANAGEMENT SYSTEM

Category		Unit	2021	2022	2023
Scope of employees subject to the occupational health and safety management system ¹⁾	The percentage of employees who are not affiliated with the organization but whose workspaces are under the management of the organization and are subject to the occupational health and safety management system	%	100	100	100
	The percentage of employees who are not affiliated with the organization but whose workspaces are under the management of the organization and have been audited internally for the occupational health and safety management system	%	100	100	100
	The percentage of employees who are not affiliated with the organization but whose workspaces are under the management of the organization and have been audited or certified by an external agency for the occupational health and safety management system	%	100	100	100
	The number of employees who are not affiliated with the organization but whose workspaces are under the management of the organization and are exempt from the occupational health and safety management system	명	0	0	0

1) Calculation Method: (Annual domestic construction performance*labor ratio)/(Average monthly wage in the construction industry×12) to determine the number of regular employees.

HEALTH AND SAFETY MANAGEMENT MONITORING

Category		Unit	2021	2022	2023
On-site safety inspections	Total cases	Cases	597	1,070	1,304
	Cases per site	Cases	5	10	10

EMPLOYEE HEALTH AND SAFETY TRAINING

Category		Unit	2021	2022	2023
Safety training	Number of training courses	Courses	13	14	22
	Number of completers ¹⁾	Persons	1,091	4,525	6,170
	Securing of safety managers	Percentage of regular employees	30.3	42.0	47.0
Occupational safety training ²⁾	Number of participants	Persons	524,160	410,187	530,930
	Training hours	Hours	899,228	679,666	970,254
	Training hours per person	Hours	1.72	1.66	1.83
	Participation rate	%	100	100	100

1) Calculation basis: Number of company employees and partners who have completed safety training courses organized by the headquarters' education and training team.

2) Calculation basis: Number of participants in mandatory training for field workers.

SOCIAL DATA

EMPLOYEE TOTAL RECORDABLE INCIDENT RATE

Category	Unit	2021	2022	2023
Number of occupational fatalities	Persons	0	0	0
Mortality rate of directly employed staff	Fatalities per 200,000 working hours	0	0	0
Number of injuries	Persons	0	0	0
Total recordable incident rate for employees (TRIR)	Cases per 200,000 working hours	0	0	0
Total recordable incident rate for contract employees (TRIR)	Cases per 200,000 working hours	0	0	0
Total recordable incident rate for direct employees (TRIR)	Cases per 200,000 working hours	0	0	0

SUPPLY CHAIN TOTAL RECORDABLE INCIDENT RATE

Category	Unit	2021	2022	2023
Number of occupational fatalities	Persons	2	1	5
Number of injuries	Persons	135	168	178
Total recordable incident rate for contractors (TRIR)	Cases per 200,000 working hours	0.60	0.93	0.69

SOCIAL DATA

OCCUPATIONAL INJURIES AND ILLNESSES¹⁾

		Category	Unit	2021	2022	2023
Occupational injuries and illnesses	Employees	Number of fatalities due to occupational injuries and illnesses	Cases	0	0	0
		Number of serious occupational injuries and illnesses	Cases	0	0	0
	Workers under the control of the organization's workspaces	Number of fatalities due to occupational injuries and illnesses	Cases	2	1	5
		Number of serious occupational injuries and illnesses	Cases	0	0	0
		Number of recordable occupational injuries	Cases	135	168	178

1) Diseases such as hypertension, diabetes, and hyperlipidemia, as well as health changes due to job stress, are managed through the "Vulnerable Worker Management Process." Workers' health protection against extreme heat and cold is handled separately. In accordance with the "Step-by-Step Response Guide to Protect Workers' Health During Heat Waves," we proactively establish and manage preventive measures for heat-related illnesses. Similarly, following the "Worker Health Management Guide for Cold Weather," we implement and manage measures based on different levels of cold weather risk.

HEALTH AND SAFETY IMPROVEMENT PROGRAMS

Category	Unit	2021	2022	2023
Percentage of worksites operating community engagement, impact assessment, and development programs ¹⁾	%	100	100	100

1) Calculation basis: The percentage of work sites with occupational health and safety committees or other worker representative bodies to manage community impacts. All sites have occupational health and safety committees that include both employers and workers.

SOCIAL DATA

PARTNERS RISK MANAGEMENT

Category	Unit	2021	2022	2023
Number of cases where contracts with business partners were terminated or not renewed due to corruption violations among ongoing corruption and bribery cases	Cases	0	0	0
Number of suppliers performing ESG self-assessment evaluations ¹⁾	Companies	-	-	21
Number of suppliers identified as having significant or potentially significant negative environmental impacts	Companies	0	0	0
Percentage of suppliers identified as having significant or potentially significant negative environmental impacts, and subsequently engaged in discussions for improvement	%	0	0	0
Percentage of suppliers identified as having significant or potentially significant negative environmental impacts, leading to termination of the relationship	%	0	0	0
Number of cases where contracts with business partners were terminated or not renewed due to corruption violations among ongoing corruption and bribery cases	Cases	0	0	0
Number of partner companies evaluated in relation to social impact analysis	Companies	2,185	2,593	2,555
Number of partner companies identified as having significant or potentially significant negative social impacts within the supply chain	Companies	0	0	0
Percentage of the supply chain (partner companies) engaged in discussions for improvement based on social impact assessment results	%	0	0	0
Percentage of partner companies whose contracts were terminated based on social impact assessment results within the supply chain	%	0	0	0

1) First implemented in 2023.

PARTNER MUTUAL GROWTH SUPPORT

Category	Unit	2021	2022	2023
Total number of partners ¹⁾	Companies	2,185	2,593	2,555
Number of outsourcing partners ²⁾	Companies	-	1,566	1,832
Number of purchasing partners ²⁾	Companies	-	1,027	723
Number of excellent partners ³⁾	Companies	51	73	90
Performance in financial support for partners	KRW million	38,896	52,684	44,221

1) Scope of calculation: Domestic partners who conducted business with LOTTE E&C during the given year.

2) New partner classification criteria applied as of 2022.

3) Calculation basis: The top partners of the current year are selected based on the previous year's transactions.

PARTNERS GRIEVANCE HANDLING PERFORMANCE

Category	Unit	2021	2022	2023
Number of health and safety-related grievances from partners	Cases	-	21	19
Number of health and safety-related grievances resolved for partners	Cases	-	21	19
Resolution rate of health and safety-related grievances	%	-	100	100

SOCIAL DATA

COMMUNITY ENGAGEMENT ACTIVITY¹⁾

Category	Unit	2021	2022	2023
Total expenditure on social contribution activities ¹⁾	KRW million	4,267	4,542	3,706
Number of social contribution programs ²⁾	Cases	106	131	122
Number of employees participating in volunteer activities ³⁾	Persons	639	500	947
Employee volunteer hours ⁴⁾	Hours	2,604	2,706	2,255
Number of social contribution volunteer teams ⁵⁾	Teams	248	259	267
Matching grant employee participation rate	%	65.7	72.1	65.5

1) Calculation basis: "Contributions" listed in the Business Report, plus sum of matching grant from employee donation.

2) Calculation method: Number of programs implemented using social contribution resources.

3) Calculation basis: 417 participants of Charlotte Volunteer Group, 214 from key social contribution activities (such as Love House, National Cemetery, Briquette and Ramen Sharing), and the 316 from Hangarae Campaign.

4) Calculation method: Volunteer hours multiplied by the cumulative number of participants.

5) Calculation basis: 75 active teams as of the end of December 2023, with 192 teams having completed activities due to site completion.

EVALUATION OF HEALTH AND SAFETY IMPACTS OF PRODUCTS AND SERVICES¹⁾

Category	Unit	2021	2022	2023
Percentage of major products/services evaluated for health and safety impacts for improvement	%	100	100	100

1) Calculation basis: Data is calculated based on the number of partner safety management evaluations conducted in the first and second half of the year when progress payment is due.

CUSTOMER INFORMATION PROTECTION AND MONITORING

Category		Unit	2021	2022	2023
Total number of proven customer data breaches, thefts, and loss incidents		Cases	0	0	0
Number of proven customer data	Breaches	Cases	0	0	0
Number of proven customer data	Thefts	Cases	0	0	0
Number of proven customer data	Losses	Cases	0	0	0
Total number of proven complaints regarding customer privacy violations		Cases	0	0	0
Number of proven complaints regarding customer privacy violations	Complaints raised by external parties and proven internally within the organization	Cases	0	0	0
Number of proven complaints regarding customer privacy violations	Complaints raised by regulatory agencies	Cases	0	0	0

INVESTMENT IN INFORMATION PROTECTION

Category	Unit	2021	2022	2023
Percentage of investment in information protection relevant to the total IT budget	%	4.4	8.1	8.9

SOCIAL DATA

QUALITY MANAGEMENT

Category				Unit	2021	2022	2023
Happy Call satisfaction results	Very satisfied			%	47.5	54.6	50.73
	Satisfied			%	17.4	37.2	38.17
	Neutral			%	35.1	8.2	11.1
	Dissatisfied			%	0	0	0
Quality inspection	Site inspection	Model house inspection		Times	13	14	15
		Advanced unit inspection		Times	13	7	6
		Advanced unit improvement proposals		Cases	123	73	67
		Structural/Condensation/Finishing plan inspection		Times	5	1	3
		Structural/Condensation/Finishing plan improvement proposals		Cases	69	10	36
		HVAC/Waterproofing/Condensation/Insulation inspection		Times	28	15	22
		HVAC/Waterproofing/Condensation/Insulation improvement proposals		Cases	409	190	254
		Final finishing inspection		Times	3	8	6
		Final finishing improvement proposals		Cases	40	88	76
Quality improvement	Case studies / Improvement proposals	Defect case dissemination	Dissemination to all sites	Times	9	13	7
Landscape management	Landscape maintenance works	Pruning/Watering/Weeding/Mowing/Pest control		Sites	22	28	27

GOVERNANCE DATA

BOARD OF DIRECTORS STATUS

Category		Unit	2021	2022	2023
Number of Board members	Total	Persons	7	6	6
	External directors	Persons	2	2	2
	Percentage of external directors	%	28.6	33.3	33.3
	Internal directors	Persons	4	4	4
	Percentage of internal directors	%	57.1	66.7	66.7
	Other non-executive directors	Persons	1	0	0
	Percentage of other non-executive directors	%	14.3	0	0
Number of women executives who are not major shareholders or relatives of major shareholders		Persons	0	0	0
Number of external directors with attendance below 75%		Persons	0	0	0
Tenure of board and committee members		Years	24	28	25
Average tenure of board and committee members		Years	3.4	4.6	4.1
Number of board meetings held		Times	10	20	10
Average attendance rate of the board		%	100	99.2	98
Attendance rate of external directors		%	100	100	100
Number of board deliberations		Cases	28	40	19
Number of cases where external directors opposed or suggested amendments		Cases	0	0	0
Frequency of board performance evaluations		Times/Year	1	1	1

GOVERNANCE DATA

OPERATION OF COMMITTEES WITHIN THE BOARD

Category		Unit	2021	2022	2023
Remuneration Committee	Number of meetings held	Times	3	5	3
	Total members	Times	3	3	3
	Number of external directors	Persons	2	2	2
	Attendance rate of external directors	%	100	100	100
Management Committee	Number of meetings held	Times	25	29	24
	Total members	Times	3	3	3
	Number of external directors	Persons	0	0	0
Transparency Committee for Management	Number of meetings held	Times	1	2	2
	Total members	Times	3	3	3
	Number of external directors	Persons	2	2	2
	Attendance rate of external directors	%	100	100	100

BOARD REMUNERATION MANAGEMENT¹⁾

Category	Unit	2021	2022	2023
CEO compensation	KRW 1,000	932,666	742,000	1,019,000
Average employee compensation ²⁾	KRW 1,000	91,247	86,200	88,855
Median employee compensation ³⁾	KRW 1,000	77,739	79,360	78,978
CEO compensation ratio to average employee compensation	Multiples	10.2	8.6	11.5
CEO compensation ratio to median employee compensation	Multiples	12.0	9.3	12.9

1) Calculation basis: The highest-paid member is determined based on the CEO's compensation data from the Business Report.

2) Calculation basis: Calculated using the average compensation data of employees as reported in the Business Report.

3) Scope of calculation: Full-time employees, excluding registered executives and field workers, for whom the Company completed year-end and mid-year settlements during the given year.

GOVERNMENT OWNERSHIP OF SHARES

Category	Unit	2021	2022	2023
Shares held by the government	%	0	0	0

ADVANCE NOTICE OF ANNUAL GENERAL MEETING LOCATION AND AGENDA

Category	Unit	2021	2022	2023
Advanced notice for the location and agenda of the Annual General Meeting	Days prior	14	14	14

GOVERNANCE DATA

ETHICAL MANAGEMENT AND COMPLIANCE¹⁾

Category	Unit	2021	2022	2023
Number of legal actions regarding anti-competitive behavior and monopoly regulation violations that were ongoing or concluded during the reporting period	Cases	0	0	1 ²⁾
Total amount of fines and settlements due to anti-competitive behavior and monopoly regulation violations	KRW	0	0	0
Total number of major legal and regulatory non-compliance incidents during the reporting period	Cases	0	1 ³⁾	0
Number of non-monetary sanctions for violations of social and economic laws and regulations	Cases	0	0	0
Number of cases processed through dispute resolution mechanisms relevant to social and economic law and regulatory violations	Cases	0	0	0
Amount of major fines due to violations of social and economic laws and regulations	KRW	0	0	0
Total number of ongoing corruption and bribery cases	Cases	0	0	0
Total monetary losses due to legal procedures relevant to bribery or corruption allegations	KRW	0	0	0
Number of corruption and bribery cases resulting in employee termination or disciplinary action due to corruption	Cases	0	0	0

1) Calculation basis: Number of corporate criminal penalties.

2) One instance of legal action for violating anti-competitive behavior and antitrust laws. (In 2022, during a written inspection of subcontracting transactions, delayed payment of interest was identified. The company received a "warning" for violating the Subcontracting Fairness Act due to voluntary correction, resulting in no financial sanctions such as fines.

3) A warning issued (no penalty points or fines) based on a written inspection and voluntary correction in 2022.

CONDUCTION OF CORRUPTION RISK ASSESSMENT

Category	Unit	2021	2022	2023
Number of sites that conducted corruption risk assessments ¹⁾	Courses	0	103	89
Percentage of sites that conducted corruption risk assessments	%	100	100	100

1) Calculation basis: Following the initial establishment of the anti-corruption management system in 2022, a corruption risk assessment was conducted across all headquarters.

GOVERNANCE DATA

ANTI-CORRUPTION POLICY AND PROCEDURE NOTICE AND TRAINING

Category		Unit	2021	2022	2023
Number of Board members who shared the anti-corruption policy		Persons	7	6	6
Percentage of board members who shared the anti-corruption policy		%	100	100	100
Number of governance members who received the organization's anti-corruption policy and procedure notice	Total	Persons	7	6	6
Percentage of governance members who received the organization's anti-corruption policy and procedure notice	Total	%	100	100	100
Number of employees who received the organization's anti-corruption policy and procedure notice	Female	Persons	342	410	437
Percentage of employees who received the organization's anti-corruption policy and procedure notice	Female	%	100	100	100
Number of employees who received the organization's anti-corruption policy and procedure notice	Male	Persons	3,226	3,522	3,594
Percentage of employees who received the organization's anti-corruption policy and procedure notice	Male	%	100	100	100
Number of business partners who received the organization's anti-corruption policy and procedure notice ¹⁾	Total	Persons	2,185	2,593	2,555
Percentage of business partners who received the organization's anti-corruption policy and procedure notice	Total	%	100	100	100
Number of governance members who received the organization's anti-corruption training		Persons	5	4	4
Percentage of governance members who received the organization's anti-corruption training		%	100	100	100
Number of employees who received the organization's anti-corruption training		Persons	3,568	3,932	4,031
Percentage of employees who received the organization's anti-corruption training		%	100	100	100
Number of partners who shared the anti-corruption policy		Companies	2,185	2,593	2,555
Percentage of partners who shared the anti-corruption policy		%	100	100	100

1) Calculation basis: Anti-corruption policies and procedures were communicated to all partners via the partner portal. This was done through the Compliance Bulletin, where the anti-corruption policy announcement is accessible to all partners.

ETHICAL MANAGEMENT¹⁾

Category	Unit	2021	2022	2023
Number of disciplinary actions for ethical management violations	Cases	5	6	20
Whistleblower reports	Cases	197	209	193
Number of improvements and guidance after audit	Cases	205	232	247
Ethical level assessment	Points	90	91	90
Number of reported Code of Conduct/Ethical Policy Violations	Cases	5	6	20

1) Calculation basis: Number of compliance reports received

REPORT CHANNEL PERFORMANCE

Category	Unit	2021	2022	2023
Number of reports received via Report Channel	Cases	197	209	193
Number of reports processed from those received via Report Channel	Cases	179	192	179
Percentage of reports processed from those received via Report Channel	%	90.7	89.5	92.7

GOVERNANCE DATA

ANTI-CORRUPTION TRAINING PERFORMANCE¹⁾

Category		Unit	2021	2022	2023
Number of board members who received anti-corruption training		Persons	7	6	6
Percentage of board members who received anti-corruption training		%	100	100	100
Number of employees who received anti-corruption training	Total	Persons	3,568	3,932	4,031
	Regular	Persons	2,595	2,785	2,864
	Contract	Persons	973	1,147	1,167
	South Korea	Persons	3,447	3,657	3,702
	Indonesia	Persons	37	180	273
	Vietnam	Persons	58	69	40
	Japan	Persons	1	1	1
	China	Persons	10	6	3
	Pakistan	Persons	2	1	1
	Russia	Persons	1	1	0
	Malaysia	Persons	5	8	0
	Cambodia	Persons	2	0	0
	Singapore	Persons	5	5	6
	Philippines	Persons	0	3	5
	Hungary	Persons	0	1	0
	Percentage of employees who received anti-corruption training	Total	%	100	100
Regular		%	100	100	100
Contract		%	100	100	100
South Korea		%	100	100	100
Indonesia		%	100	100	100
Vietnam		%	100	100	100
Japan		%	100	100	100
China		%	100	100	100
Pakistan		%	100	100	100
Russia		%	100	100	100
Malaysia		%	100	100	100
Cambodia		%	100	100	100
Singapore		%	100	100	100
Philippines		%	100	100	100
Hungary		%	100	100	100

1) Calculation basis: Fair Trade Performance.

CORRUPTION CASE OCCURRENCES

Category	Unit	2021	2022	2023
Number of corruption cases	Cases	6	4	3
Number of cases where employees were dismissed or disciplined due to corruption	Cases	9	6	3
Number of cases where partner contracts were terminated or not renewed due to corruption	Cases	0	0	0

POLITICAL DONATIONS¹⁾

Category	Unit	2021	2022	2023
Total amount of political donations and other expenditures	KRW	0	0	0

1) In line with our compliance policy, the "Rules for the Enforcement Procedures for Donations and Sponsorships" (which state that the Company will only make donations for charitable and public purposes, and will not support projects with political or religious objectives.)

FAIR TRADE TRAINING PERFORMANCE¹⁾

Category	Unit	2021	2022	2023
Number of participants in fair trade-related trainings	Persons	-	3,493	3,991
Hours of fair trade-related trainings	Hours	-	1	1
Number of legal actions for unfair trade practices	Cases	0	1 ²⁾	0

1) Monthly all-employee training through CP TIMES, including 10-minute CEO video lectures, achieving a 100% completion rate for all employees.

2) Warnings issued (with no penalties or fines) based on a written assessment and self-correction in 2022.

APPENDIX

GRI CONTENT INDEX	132
SASB INDEX	137
IFRS INDEX(TCFD)	139
ESRS INDEX	140
GREENHOUSE GAS VERIFICATION STATEMENT	142
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GRI CONTENT INDEX

Statement of use	For the period from January 1, 2023 to December 31, 2023, LOTTE E&C reports the information in accordance with the reporting principles for sustainability reporting under GRI Standards.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standards	As of the date of publication, industry sector standards corresponding to LOTTE E&C's major industries have not been published and, therefore, are not applicable.

General Disclosures

Topic	Metric	Disclosure	Page	Remarks
The Organization and Its Reporting Practices	2-1	Organizational details	5~8	
	2-2	Entities included in the organization's sustainability reporting	2	
	2-3	Reporting period, frequency and contact point	2	
	2-4	Restatements of information	-	Modifications are commented in the notes.
	2-5	External assurance	142~147	
Activities and Workers	2-6	Activities, value chain and other business relationships	10~20	
	2-7	Employees	115	
	2-8	Workers who are not employees	-	Go to the Business Report p.410
Governance	2-9	Governance structure and composition	94~95, 126	Go to the Business Report p.391
	2-10	Nomination and selection of the highest governance body	94, 127	
	2-11	Chair of the highest governance body	94	
	2-12	Role of the highest governance body in overseeing the management of impacts	22, 94~95	
	2-13	Delegation of responsibility for managing impacts	22, 94~95	
	2-14	Role of the highest governance body in sustainability reporting	22, 33	

Topic	Metric	Disclosure	Page	Remarks
Governance	2-15	Conflicts of interest	94~95	
	2-16	Communication of critical concerns	22	Go to the Business Report p.390
	2-17	Collective knowledge of the highest governance body	94	
	2-18	Evaluation of the performance of the highest governance body	95	
	2-19	Remuneration policies	95	
	2-20	Process to determine remuneration	95	
	2-21	Annual total compensation ratio	127	
	2-22	Statement on sustainable development strategy	4	
Strategy, Policies and Practices	2-23	Policy commitments	53, 60	
	2-24	Embedding policy commitments	54~57, 61~66	
	2-25	Processes to remediate negative impacts	27~28, 54, 62	
	2-26	Mechanisms for seeking advice and raising concerns	43~44, 54, 62, 99, 102, 106	
	2-27	Compliance with laws and regulations	111, 128	Go to the Business Report p.431
	2-28	Membership associations	148	
Stakeholder Engagement	2-29	Approach to stakeholder engagement	29~30	
	2-30	Collective bargaining agreements	86	The Company is a non-union company, hence no labor unions or collective bargaining agreements.

GRI CONTENT INDEX

Material Topics & Topic Standards

Topic	Metric	Disclosure	Page	Remarks
GRI 3: Material Topics 2021	3-1	Process to determine material topics	24~25	
	3-2	List of material topics	25	
Material Topics 1: Securing New Growth Engines				
GRI 3: Material Topics	3-3	Management of material topics	26	
SASB	IF-EN-000.C	Total backlog	138	
Material Topics 2: Green Building				
GRI 3: Material Topics	3-3	Management of material topics	26, 76~80	
SASB	IF-EN-410a.2	Discussion of process to incorporate operational-phase energy and water efficiency considerations into project planning and design	137	
Material Topics 3: Ethics and Anti-Corruption				
GRI 3: Material Topics	3-3	Management of material topics	26	
GRI 205: Anti-corruption	205-1	Operations assessed for risks related to corruption	128	
	205-2	Communication and training about anti-corruption policies and procedures	102	
	205-3	Confirmed incidents of corruption and actions taken	102	
GRI 206: Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	128	
Material Topics 4: Climate Change				
GRI 3: Material Topics	3-3	Management of material topics	32	
GRI 302: Energy	302-1	Energy consumption within the organization	112	
	302-3	Energy intensity	112	
	302-4	Reduction of energy consumption	112	
	302-5	Reductions in energy requirements of products and services	11, 13, 77~78	
GRI 305: Emissions	305-1	Direct(Scope 1) GHG emissions	112	
	305-2	Energy indirect(Scope 2) GHG emissions	112	
	305-4	GHG emissions intensity	112	
	305-5	Reduction of GHG emissions	112	

GRI CONTENT INDEX

Material Topics & Topic Standards

Topic	Metric	Disclosure	Page	Remarks
Material Topics 5: Shared Growth with Partners				
GRI 3: Material Topics	3-3	Management of material topics	58	
GRI 204: Procurement Practices	204-1	Proportion of spending on local suppliers	109	
GRI 308: Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria	64	
	308-2	Negative environmental impacts in the supply chain and actions taken	63~66	
GRI 414: Supplier Social Assessment	414-1	New suppliers that were screened using social criteria	64	
	414-2	Negative social impacts in the supply chain and actions taken	63, 123	
Material Topics 6: Employee Health and Safety				
GRI 3: Material Topics	3-3	Management of material topics	40	
GRI 403: Occupational Health and Safety	403-1	Occupational health and safety management system	42	
	403-2	Hazard identification, risk assessment, and incident investigation	47~49, 51	
	403-3	Occupational health services	43~44, 50	
	403-4	Worker participation, consultation, and communication on occupational health and safety	41~44	
	403-5	Worker training on occupational health and safety	46	
	403-6	Promotion of worker health	50	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	63~64	
	403-8	Workers covered by an occupational health and safety management system	120	
	403-9	Work-related injuries	122	
	403-10	Work-related ill health	122	
Material Topics 7: Human Rights management				
GRI 3: Material Topics	3-3	Management of material topics	52	
GRI 405: Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	119	
	405-2	Ratio of basic salary and remuneration of women to men	117	
GRI 406: Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	117	
GRI 410: Security Practices	410-1	Security personnel trained in human rights policies or procedures	-	Human Rights Impact Assessment confirms that the human rights impacts of security personnel are negligible.

GRI CONTENT INDEX

Material Topics & Topic Standards

Topic	Metric	Disclosure	Page	Remarks
Material Topics 8: Customer Satisfaction				
GRI 3: Material Topics	3-3	Management of material topics	26	
GRI 416: Customer Health and Safety	416-1	Assessment of the health and safety impacts of product and service categories	90~91	

Non Material Topics

Topic	Metric	Disclosure	Page	Remarks
GRI 201: Economic Performance	201-1	Direct economic value generated and distributed	108~109	
	201-2	Financial implications and other risks and opportunities due to climate change	34~35	
	201-3	Defined benefit plan obligations and other retirement plans	117	
GRI 202: Market Presence	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	117	
	202-2	Proportion of senior management hired from the local community	115	
GRI 203: Indirect Economic Impacts	203-1	Infrastructure investments and services supported	87~89	
	203-2	Significant indirect economic impacts	20, 88~89	
GRI 301: Materials	301-1	Materials used by weight or volume	114	
	301-2	Recycled input materials used	114	
	301-3	Reclaimed products and their packaging materials	Not applicable	Due to the nature of the construction industry, the reuse and recycling of materials are not possible, and there are no cases of reuse or recycling due to regulatory prohibitions.
GRI 303: Water and Effluents	303-2	Management of water discharge-related impacts	73	
	303-3	Water withdrawal	114	
	303-5	Water consumption	114	
GRI 304: Biodiversity	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	75	
	304-2	Significant impacts of activities, products and services on biodiversity	74~75	

GRI CONTENT INDEX

Non Material Topic

Topic	Metric	Disclosure	Page	Remarks
GRI 306: Waste	306-1	Waste generation and significant waste-related impacts	72	
	306-2	Management of significant waste related impacts	72	
	306-3	Waste generated	113	
	306-4	Waste diverted from disposal	113	
	306-5	Waste directed to disposal	113	
GRI 401: Employment	401-1	New employee hires and employee turnover	116	
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	109	
	401-3	Parental leave	118	
GRI 404: Training and Education	404-1	Average hours of training per year per employee	119	
	404-2	Programs for upgrading employee skills and transition assistance programs	82~83	
	404-3	Percentage of employees receiving regular performance and career development reviews	119	
GRI 415: Public Policy	415-1	Political contributions	130	
GRI 417: Marketing and Labeling	417-1	Requirements for product and service information and labeling	69	
	417-2	Incidents of non-compliance concerning product and service information and labeling	Not applicable	
GRI 418: Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	124	

SASB INDEX

Topic	Code	Metric	Category	LOTTE E&C Data
Environmental Impacts of Project Development	IF-EN-160a.1	Number of incidents of non-compliance with environmental permits, standards, and regulations	Quantitative	As of 2023, there have been no material violations or fines, and there are zero corporate dispositions.
	IF-EN-160a.2	Discussion of processes to assess and manage environmental risks associated with project design, siting, and construction	Qualitative	The Company performs environmental impact assessments to identify potential impacts before starting a project. We also carry out ongoing inspections and take measures to comply with environmental laws and regulations. Each site must develop and manage an environmental management plan tailored to the local environment and construction characteristics at the project's outset. We implement mitigation measures based on a risk assessment of environmental impacts. Additionally, we conduct annual comprehensive assessments and voluntary inspections for environmental violations at our sites, taking immediate corrective action for any issues identified.
Structural Integrity & Safety	IF-EN-250a.1	Amount of defect- and safety-related rework costs	Quantitative	In 2023, the Company incurred KRW 2,503 million in defect remediation costs, which are transparently disclosed in the Business Report.
	IF-EN-250a.2	Total amount of monetary losses as a result of legal proceedings associated with defect- and safety-related incidents	Quantitative	In 2023, we paid KRW 2,862 million in defect-related expenses as a result of finalizing legal proceedings.
Workforce Health & Safety	IF-EN-320a.1	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Quantitative	"Health and safety metrics are transparently disclosed on page 121 of this report.
Lifecycle Impacts of Buildings & Infrastructure	IF-EN-410a.1	Number of (1) commissioned projects certified to a third-party multi-attribute sustainability standard and (2) active projects seeking such certification	Quantitative	In 2023, the number of projects that obtained Green Building Certification (primary certification) includes 6 residential projects and 2 commercial projects, totaling 8 projects.
	IF-EN-410a.2	Discussion of process to incorporate operational-phase energy and water efficiency considerations into project planning and design	Qualitative	Before starting a project, the Company identifies potential risks in advance to manage water and energy efficiency. Specifically, we apply the Pre-Con Service (PCS) to analyze the anticipated energy usage of buildings from the design stage, encouraging energy savings through eco-friendly design. We also integrate green technologies and construction methods to create resource-efficient buildings.
Climate Impacts of Business Mix	IF-EN-410b.1	Amount of backlog for (1) hydrocarbon-related projects and (2) renewable energy projects	Quantitative	The backlog of hydrocarbon-related projects as of 2023 amounted to KRW 244.1 billion The backlog of renewable energy projects as of 2023 was KRW 246.2 billion.
	IF-EN-410b.2	Amount of backlog cancellations associated with hydrocarbon-related projects	Quantitative	As of December 2023, no hydrocarbon projects had been canceled.
	IF-EN-410b.3	Amount of backlog for non-energy projects associated with climate change mitigation	Quantitative	As of December 2023, the backlog of non-energy projects focused on climate change mitigation, including resource circulation projects, totaled KRW 13.8 billion."

SASB INDEX

Topic	Code	Metric	Category	LOTTE E&C Data
Business Ethics	IF-EN-510a.1	(1) Number of active projects and (2) backlog in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Quantitative	As of the end of December 2023, the Company had not received any project awards in the country.
	IF-EN-510a.2	Total amount of monetary losses as a result of legal proceedings associated with charges of (1) bribery or corruption and (2) anti-competitive practices	Quantitative	There were no fines, penalties, or settlements related to bribery, corruption, or anti-competitive behavior finalized in 2023.
	IF-EN-510a.3	Description of policies and practices for prevention of (1) bribery and corruption, and (2) anti-competitive behavior in the project bidding processes	Qualitative	The Company provides clear guidelines through an ethical management document system that includes ethical management regulations, implementation guidelines, strategies, and activities. Each year, we collect compliance pledges from all employees and distribute the "Compliance Manual," which outlines our internal guidelines for fair trade behavior. In October 2022, we obtained ISO 37001 certification for our anti-corruption management system to identify and assess corruption risks across all departments. Additionally, in December 2023, we received an excellent grade (AA) in the CP rating evaluation conducted by the Korea Fair Trade Commission.
Activity Metrics	IF-EN-000.A	Number of active projects	Quantitative	As of the end of December 2023, there were 138 domestic and 14 international sites underway.
	IF-EN-000.B	Number of commissioned projects	Quantitative	During 2023, we completed 28 domestic and 7 international sites.
	IF-EN-000.C	Total backlog	Quantitative	As of December 2023, our total order backlog was KRW 47.082 trillion, with KRW 43.982 trillion in Korea and KRW 4.034 trillion overseas.

IFRS INDEX(TCFD)

S2 CLIMATE-RELATED DISCLOSURES

Category	Title	Page
Governance	The governance processes, controls, and procedures an entity uses to monitor, manage, and oversee climate-related risks and opportunities.	
	1 the governance body(s) (which can include a board, committee or equivalent body charged with governance) or individual(s) responsible for oversight of climate-related risks and opportunities.	33
	2 management's role in the governance processes, controls and procedures used to monitor, manage and oversee climate-related risks and opportunities	33
Strategy	The company's strategy for managing sustainability-related risks and opportunities, and the impacts of identified risks and opportunities on the "business model and value chain," "strategy and decision-making," and "financial position, performance, and cash flows" over the short, medium, and long term	
	1 Climate-related risks and opportunities that are reasonably expected to affect the company's outlook.	34
	2 The current and anticipated impacts of climate-related risks and opportunities on the business model and value chain.	34~36
	3 The impact of climate-related risks and opportunities on strategy and decision-making, including information on transition plans.	35
	4 The current financial impacts of climate-related risks and opportunities on the company's financial position, performance, and cash flows during the reporting period, as well as the anticipated financial impacts over the short, medium, and long term.	34
	5 The climate resilience of the company's strategy and business model in response to climate-related changes, scenarios, and uncertainties.	35
Risk Management	Processes used by the company to identify, assess, prioritize, and monitor sustainability-related risks and opportunities, and how these processes are integrated with the company's overall risk management	
	1 The processes and policies used to identify, assess, prioritize, and monitor climate-related risks.	34
	2 The processes used to identify, assess, prioritize, and monitor climate-related opportunities.	34
	3 The scope and manner in which the processes for identifying, assessing, prioritizing, and monitoring climate-related risks and opportunities are integrated into and function within the company's overall risk management processes.	37

Category	Title	Page
Metrics and Targets	Performance of the company related to sustainability-related risks and opportunities, including progress towards targets set by the company/laws/regulations	
	Industry-wide Indicators	
	1 Greenhouse gas	Detailed information on Scope 1, 2, and 3 GHG emissions and measurement approaches. 36, 112
	2 Climate-related opportunities	The amount and percentage of assets or business activities aligned with climate-related opportunities. 20
	Industry-Specific Indicators	
	1 When determining disclosure indicators, refer to industry-specific guidelines within IFRS S2 for disclosure topics and relevant industry-based indicators.	137~138
	Climate-Related Targets	
	1 Targets	Quantitative and qualitative targets set by the company, targets required by laws/regulations, and the applicable timeframes/sectors. 38
	2 Review of targets	The approach to setting and reviewing targets, whether the targets are subject to third-party verification, methods for monitoring progress towards targets, and indicators used in monitoring 38
	3 GHG emission Targets	The types of GHG targeted, total emissions reduction goals, and plans for using carbon credits in the case of net emissions targets. 38

ESRS INDEX

ESRS 2. GENERAL DISCLOSURES

Indicator No.	Title	Page
BP-1	General basis for preparation of the sustainability statements	2
BP-2	Disclosures in relation to specific circumstances	132
GOV-1	The role of the administrative, management and supervisory bodies	22~23
GOV-2	Information provided to and sustainability matters addressed by the undertaking's administrative, management and supervisory bodies	22
GOV-3	Integration of sustainability-related performance in incentive schemes	38, 42
GOV-4	Statement on sustainability due diligence	27~28
SBM-1	Market position, strategy, business model(s) and value chain	5~7
SBM-2	Interests and views of stakeholders	29~30
SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model(s)	24~26
IRO-1	Description of the processes to identify and assess material impacts, risks and opportunities	24
IRO-2	Disclosure Requirements in ESRS covered by the undertaking's sustainability statements	140~141

TOPIC STANDARDS

Indicator No.	Title	Page
E1. Climate Change		
E1-1	Transition plan for climate change mitigation	38
E1-3	Actions and resources in relation to climate change policies	34~35
E1-4	Targets related to climate change mitigation and adaptation	38
E1-5	Energy consumption and mix	112
E1-6	Gross Scopes 1, 2, 3 and Total GHG emissions	112
E1-9	Potential financial effects from material physical and transition risks and potential climate-related opportunities	34
E2. Pollution		
E2-1	Policies related to pollution	69
E2-2	Actions and resources related to pollution	70
E4. Biodiversity and Ecosystems		
E4-5	Impact metrics related to biodiversity and ecosystems change	74~75
E5. Resource Use and Circular Economy		
E5-4	Resource inflows	114
E5-5	Resource outflows	113

ESRS INDEX

TOPIC STANDARDS

Indicator No.	Title	Page
S1. Own Workforce		
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S1-2	Processes for engaging with own workers and workers' representatives about impacts	54, 86
S1-3	Processes to remediate negative impacts and channels for own workers to raise concerns	54
S1-4	Taking action on material impacts on own workforce, and approaches to mitigating material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions	55~56
S1-5	Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	55~57
S1-6	Characteristics of the undertaking's employees	115
S1-7	Characteristics of non-employee workers in the undertaking's own workforce	115
S1-8	Percentage of total employees covered by collective bargaining agreements For employees not covered by collective bargaining agreements, a description of reasons and countermeasures	Not applicable
S1-9	Average hourly wage difference between genders, ratio of women's hourly wage against men's hourly wage	117
	Persons subject to family care leave (maternity leave, parental leave, etc.), number of persons who went on a leave, retention rate after returning to work after leave	118
S1-13	Percentage of employees that participated in regular performance and career development reviews	119
	Average number of training hours and expenses per person	119
S1-14	Percentage of own workers who are covered by the undertaking's health and safety management system based on legal requirements and/or recognized standards or guidelines	120
	Number and rate of work-related injuries and ill health, the number of days lost to work-related injuries, accidents, and ill health	122
S1-17	Number of work-related incidents and severe human rights impacts and incidents within its own workforce and any related material fines or sanctions for the reporting period	117
	Number of complaints and severe human rights impacts and incidents within its own workforce and any related countermeasures and plans to prevent reoccurrence	117

Indicator No.	Title	Page
S2. Workers in the Value Chain		
S2-1	Policies related to value chain workers	53, 60
S2-2	Processes for engaging with value chain workers about impacts	62
S2-3	Processes to remediate negative impacts and channels for value chain workers to raise concerns	62
S2-4	Taking action on material impacts on value chain workers, and approaches to mitigating material risks and pursuing material opportunities related to value chain workers, and effectiveness of those actions	63~64
S2-5	Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	66
ESRS S3. Affected Communities		
S3-2	Processes for engaging with affected communities about impacts	87
ESRS S4. Consumers and End Users		
S4-2	Processes for engaging with consumers and end-users about impacts	92~93
S4-3	Processes to remediate negative impacts and channels for consumers and end-users to raise concerns	92~93
S4-4	Taking action on material impacts on consumers and end-users, and approaches to mitigating material risks and pursuing material opportunities related to consumers and end-users, and effectiveness of those actions	93
G1. Business Conduct		
G1-1	Top decision-making body's declaration of ethical management and roles and responsibilities in relation to management and supervision	98
	Requirements in the Ethics Charter and Code of Conduct	98
G1-2	Operating the compliance program, conducting activities to make payment improvements, such as the win-win payment system	100
	Diagnosing and conducting a due diligence on supplier ESG risks, reflecting diagnosis and due diligence results in supplier selection criteria	63
G1-3	Activities to prevent corruption or bribery, and a system to investigate and report outcomes to the administrative, management and supervisory bodies	98~99
	to prevent unfair trading, and a system to investigate and report outcomes to the administrative, management and supervisory bodies	99, 101
G1-4	Number of confirmed incidents of corruption or bribery, details of public legal cases, the number of confirmed incidents in which own workers were dismissed or disciplined	128~130
G1-5	Political influence and lobbying activities	130

GREENHOUSE GAS VERIFICATION STATEMENT

LRQA INDEPENDENT ASSURANCE STATEMENT

Relating to Lotte Engineering & Construction Co., Ltd.'s GHG Emissions Inventory for the calendar year 2023



Terms of engagement

LRQA was commissioned by Lotte Engineering & Construction Co., Ltd. (Lotte Engineering & Construction) to provide independent assurance on its GHG emissions inventory for the calendar year 2023 (here after referred to as "the report") against the assurance criteria below to a limited level of assurance and materiality of 5% using ISO 14064-3:2019, 'Specification with guidance for verification and validation of greenhouse gas statements.'

Our assurance engagement covered Lotte Engineering & Construction's domestic operations and activities, and specifically the following requirements:

- Evaluating conformance with GHG Protocol: A Corporate Accounting and Reporting Standard, revised edition¹⁾
- Evaluating conformance with GHG Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard²⁾
- Evaluating the accuracy and reliability of data and information for direct GHG emissions (Scope 1), energy indirect GHG emissions (Scope 2) and other indirect GHG emissions (Scope 3).³⁾

The main activities of Lotte Engineering & Construction include general construction and the GHG emissions have been consolidated using an operational control approach.

LRQA's responsibility is only to Lotte Engineering & Construction. LRQA disclaims any liability or responsibility to others as explained in the end footnote. Lotte Engineering & Construction's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the report and for maintaining effective internal controls over the systems from which the report is derived. Ultimately, the report has been approved by, and remains the responsibility of Lotte Engineering & Construction.

1) <https://www.ghgprotocol.org>

2) <https://www.ghgprotocol.org>

3) Our assurance engagement covered carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) among GHGs

LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that Lotte Engineering & Construction has not, in all material respects:

- Met the requirements above; and
- Disclosed accurate and reliable data and information as summarized in Table 1 below.

The opinion expressed is formed on the basis of a limited level of assurance and at the materiality of 5%.

※ Note: The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

LRQA's approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Interviewing key people of the organization responsible for managing GHG emissions data and records;
- Reviewing processes related to the control of GHG emissions data and records;
- Visiting the headquarters of Lotte Engineering & Construction and reviewing additional evidence made available by Lotte Engineering & Construction; and
- Verifying historical GHG emissions data and records at an aggregated level for the calendar year 2023.

GREENHOUSE GAS VERIFICATION STATEMENT



LRQA’s standards, competence and independence

LRQA implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition and ISO/IEC 17021 Conformity assessment – Requirements for bodies providing audit and certification of management systems that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

This verification engagement is the only work undertaken by LRQA for Lotte Engineering & Construction and as such does not compromise our independence or impartiality.

Dated: 20 May 2024

Chan-Sik Yun

LRQA Lead Verifier

On behalf of LRQA

2nd Floor, T Tower, 30, Sowol-ro 2-gil, Jung-gu, Seoul, Republic of Korea

Table 1. Summary of Lotte Engineering & Construction, GHG Emissions Inventory 2023

Scope of GHG emissions	Tonnes CO ₂ e
Direct GHG emissions (Scope 1)	8,371
Energy indirect GHG emissions (Scope 2, Location-based) ¹⁾	37,002
Other Indirect GHG emissions (Scope 3)	2,171,066
Purchased goods & services – production of ready-mixed concrete, rebar, beams, cement, aggregate and asphalt concrete	1,169,373
Upstream transportation and distribution – transportation of ready-mixed concrete, rebar, beams and asphalt concrete	28,556
Use of sold products – use phase of constructed apartments	949,847
End-of-life treatment of sold products – waste disposal generated at the end-of-life stage of apartments	23,290

1) Scope 2, Location-based is defined in the GHG Protocol Scope 2 Guidance, 2015

THIRD-PARTY ASSURANCE STATEMENT

To: The Stakeholders of Lotte Engineering & Construction Co., Ltd



Overview

BSI (British Standards Institution) Group Korea (hereinafter referred to as the “Assurer”) was requested to verify 2024 LOTTE E&C SUSTAINABILITY REPORT (hereinafter referred to as the “Report”). The Assurer is independent of the Lotte Engineering & Construction and has no major operational financial interest other than the assurance. This assurance opinion statement is intended to provide information related to the assurance of the Lotte Engineering & Construction report relating to the environment, social and governance (ESG) to the relevant stakeholders and may not be used for any purpose other than the purpose of publication. This assurance opinion statement was prepared based on the information presented by the Lotte Engineering & Construction and the assurance was carried out under the assumption that presented the information and data were complete and accurate.

Lotte Engineering & Construction is responsible for managing the relevant information contained within the scope of assurance, operating the relevant internal control procedures, and for all information and claims contained in the report. Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to Lotte Engineering & Construction only.

The Assurer is responsible for providing Lotte Engineering & Construction management with an independent assurance opinion containing professional opinions derived by applying the assurance methodology to the scope specified, and to provide the information to all stakeholders of Lotte Engineering & Construction. The Assurer shall not bear any other responsibility, including legal responsibility, to any third party other than Lotte Engineering & Construction in providing the assurance opinion and shall not be liable to any other purpose, purpose or stakeholders related thereto for which the assurance opinion may be used.

Scope

The scope of engagement agreed upon with Lotte Engineering & Construction includes the following:

- Reporting contents during the period from January 1st to December 31st 2023 included in the report, some data included half of 2024.
- Major assertion included in the Report, such as sustainability management policies and strategies, goals, projects, and performance, and the Report contents related to material issues determined as a result of materiality assessment.
- Appropriateness and consistency of processes and systems for data collection, analysis and review.
- In Accordance with the four principles of AA1000 AccountAbility in the Report, based on the type of Sustainability Assurance based on AA1000AS v3 and if applicable, the reliability of the sustainability performance information contained in the Report.

The following contents were not included in the scope of assurance.

- Financial information in Appendix.
- Index items related to other international standards and initiatives other than the GRI.
- Other related additional information such as the website, business annual report.

Assurance Level and Type

The assurance levels and types are as follows;

- Moderate level based on AA1000 AS and Type 2 (confirmation to the four principles as described in the AA1000 Accountability Principle 2018 and quality and reliability of specific performance information published in the report.)

THIRD-PARTY ASSURANCE STATEMENT



Description and sources of disclosures covered

Based on the scope and methodology of assurance applied, the assurer reviewed the following Disclosures based on the sampling of information and data provided by Lotte Engineering & Construction.

[Universal Standards]

2-1 to 2-5 (The organization and its reporting practices), 2-6 to 2-8 (Activities and workers), 2-9 to 2-21 (Governance), 2-22 to 2-28 (Strategy, policies and practices), 2-29 to 2-30 (Stakeholder engagement), 3-1 to 3-3 (Material Topics Disclosures)

[Topic Standards]

201-1~3, 202-1~2, 203-1~2, 204-1, 205-1~3, 206-1, 301-1~3, 302-1, 302-3~5, 303-2~3, 303-5, 304-1~2, 305-1~2, 305-4~5, 306-1~5, 308-1~2, 401-1~3, 403-1~10, 404-1~3, 405-1~2, 406-1, 410-1, 414-1~2, 415-1, 416-1, 417-1~2, 418-1

Methodology

As a part of its independent assurance, the Assurer has used the methodology developed for relevant evidence collection in order to comply with the verification criteria and to reduce errors in reporting. The Assurer has performed the following activities:

- A top-level review of issues raised by external parties that could be relevant to organization policies to provide a check on the appropriateness of statements made in the report.
- Discussion with managers and staffs on organization's approach to stakeholder engagement.
- Review of the supporting evidence related to the material issues through interviews with senior managers in the responsible departments.
- Review of the system for sustainability management strategy process and implementation
- Review of materiality issue analysis process and prioritization by reviewing materiality issue analysis process and verifying the results.

- Verification of data generation, collection and reporting for each performance index and document review of relevant systems, policies, and procedures where available.
- An assessment of the company's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact as described in the AA1000 AccountAbility Principles Standard (2018).
- Visit of the Lotte E&C HQ to confirm the data collection processes, record management practices.

Limitations and approach used to mitigate limitations

The Assurer performed limited verification for a limited period based on the data provided by the reporting organization. It implies that no significant errors were found during the verification process, and that there are limitations related to the inevitable risks that may exist. The Assurer does not provide assurance for possible future impacts that cannot be predicted or verified during the verification process and any additional aspects related thereto.

Competency and Independence

BSI (British Standards Institution) is a leading global standards and assessment body founded in 1901. BSI is an independent professional institution that specializes in quality, health, safety, social and environmental management with almost 120 years history in providing independent assurance services globally. No member of the assurance team has a business relationship with Lotte Engineering & Construction. The Assurer has conducted this verification independently, and there has been no conflict of interest. All assurers who participated in the assurance have qualifications as an AA1000AS assurer, have a lot of assurance experience, and have in-depth understanding of the BSI Group's assurance standard methodology.

THIRD-PARTY ASSURANCE STATEMENT



Opinion Statement

The assurer was carried out by a team of sustainability report assurers in accordance with the AA1000 Assurance Standard v3. Assurer planned and performed this part of our work to obtain the necessary information and explanations assurer considered to provide sufficient evidence that Lotte Engineering & Construction's description of their approach to AA1000 Assurance Standard and their self-declaration of compliance with the GRI standards were fairly stated.

On the basis of our methodology and the activities described above, it is our opinion that the information and data included in the Report are accurate and reliable and the Assurer cannot point out any substantial aspects of material with mistake or misstatement. We believe that the economic, social and environment performance indicators are accurate and are supported by robust internal control processes.

Conclusions

The Report is prepared in accordance with the GRI Standards. (Reporting in accordance with the GRI standards). The detailed reviews against the AA1000 AccountAbility Principles of Inclusivity, Materiality, Responsiveness and Impact and the GRI Standards are set out below.

Inclusivity: Stakeholder Engagement and Opinion

Lotte Engineering & Construction defined employees, shareholders/investors, customers, partners, local communities and government agencies as a Key Stakeholder Groups. In order to collect opinions by each stakeholder groups in the context of sustainability, operated the stakeholder engagement process. Lotte Engineering & Construction conducted a review of the stakeholder engagement process at the governance level in order to reflect the major issues derived through the stakeholder engagement process in sustainability strategy and goals. Lotte Engineering & Construction disclosed the results related to the process in the Report.

Materiality: Identification and reporting of material sustainability topics

Lotte Engineering & Construction implemented its own materiality assessment process in consideration of the major business and operational characteristics to derive important reporting issues related to sustainability. Lotte Engineering & Construction conducted benchmarking and media analysis of similar companies and institutions at home and abroad, identified financial impact and social/environmental impact, and determined key issues for the reporting year. Lotte Engineering & Construction derived 8 core material issues through the relevant process, and disclosed GRI topic standards disclosures related to core material issues in the Report.

Responsiveness: Responding to material sustainability topics and related impacts

Lotte Engineering & Construction operated a management process for core material issues in the context of sustainability derived from the materiality assessment. The Lotte Engineering & Construction established mid- to long-term sustainability plans and goals in according to the management methodology established to effectively reflect the expectations of key stakeholders. Lotte Engineering & Construction disclosed the process including policy, indicator, activity and response performance on core material issues in the Report.

Impact: Impact of an organization's activities and material sustainability topics on the organization and stakeholders

Lotte Engineering & Construction identified the scope and extent of the impacts to the organization and key stakeholders in the context of the sustainability of the core material issues reported. Lotte Engineering & Construction established sustainability strategies and objectives based on the analysis results of major impacts, including risks and opportunities for core material issues, disclosed mid- to long-term plans and strategic system in the Report.

THIRD-PARTY ASSURANCE STATEMENT



Findings and conclusions concerning the reliability and quality of specified performance information

Among the GRI Topic Standards, the following disclosure were carried out in a assurance Type 2 based on the information and data provided by the reporting organization. In order to verify the reliability and accuracy of the data and information, internal control procedures related to data processing, processing, and management were verified through interviews with the responsible department, and accuracy was verified through sampling. Errors and intentional distortions in sustainability performance information included in the report were not found through assurance processes. The reporting organization manages the sustainability performance information through reliable internal control procedures and can track the process of deriving the source of the performance. Errors and unclear expressions found during the assurance process were corrected during the assurance process and prior to the publication of the report, and the assurer confirmed the final published report with the errors and expressions corrected.

- GRI Topic Standards: 201-1~2, 202-1~2, 203-1~2, 204-1, 205-1~3, 206-1, 301-1~2, 302-1, 302-3~5, 303-3, 303-5, 304-1~2, 305-1~2, 305-4~5, 306-3~5, 308-1~2, 401-1, 401-3, 403-1~10, 404-1, 404-3, 405-1~2, 406-1, 414-1~2, 416-1

Recommendations and Opportunity for improvement

The assurer will provide the following comments to the extent that they do not affect the result of assurance;

- It may be helpful to advance sustainability management system by considering the characteristics of the construction industry, performance metrics and calculation methodologies for major sustainability issues.
- It may be helpful to advance sustainability management system by integrating with unique management methods and systems, such as internal quality management systems and risk management processes.

GRI-reporting

Lotte Engineering & Construction provided us with their self declaration of compliance within GRI Standards. Based on our review, we confirm that social responsibility and sustainable development indicators with reference to the GRI Index. The Assurer confirmed that the Report was prepared in accordance with the GRI Standards and the disclosures related to the Universal Standards and Topic Standards Indicators based on the data provided by Lotte Engineering & Construction and the sector standard was not applied.

Issue Date: 19/06/2024

For and on behalf of BSI (Brithish Standards Institution):

BSI representative

Jungwoo Lee | Lead Assurer, ACSAP

Seonghwan Lim | Managing Director of BSI Korea

BSI Group Korea Limited:
29, Insa-dong 5-gil, Jongno-gu, Seoul, South Korea
Hold Statement Number: SRA 808634



AWARDS AND MEMBERSHIPS

AWARDS

Award Date	Awarding Organization	
April 14, 2023	Grand Prize in the Product and Service Branding Category at the "iF Design Awards 2023"	International Forum Design
June 29, 2023	"2023 National Service Award" in the Premium Apartment Category (6th consecutive year)	The Institute for Industrial Policy Studies
July 7, 2023	Overall Grand Prize in the Apartment Sector at the "2023 Korea Service Awards" (22nd consecutive year)	Korean Standards Association
September 22, 2023	Awarded by the Mayor of Seoul for "2023 Seoul Eco-friendly Construction Site Operation Agreement"	Seoul Metropolitan Government
November 22, 2023	Grand Prize at the "14th Artificial Ground Greening Award" (Minister of Environment Award)	Korea Green Roofs &Infrastructure Association
November 22, 2023	Best Prize at the "14th Artificial Ground Greening Award" (Association President's Award)	
November 23, 2023	Best Award at the "23rd Natural Environment Awards" (Minister of Environment Award)	Korea Association of Ecological Restoration
November 29, 2023	Selected as a recognized company in "Corporate Social Responsibility in the Community 2023"	Ministry of Health and Welfare / Korea National Council on Social Welfare

MEMBERSHIPS IN ASSOCIATIONS

Construction Association of Korea	Korea Construction Materials Council
Korea Facility Technology Association	Construction Equipment Safety Council
Korea Iron and Steel Association	Electrical Engineers Association
Korea Railroad Association	Construction Society
Korea General Construction Machinery Equipment Association	Korea Construction Management Association
Construction Industry KOSHA Council	Korea Intelligent Smart Building Association
Korea Road Association	Construction Outsourcing Council
Korea Fire Facility Association	Construction Industry Health and Safety Council
Construction Safety Practitioners Council	Korea Railroad Signaling Technology Association
Korea Irrigation and Drainage Commission	Korea Fair Competition Federation
Korea Housing Association	Korea Listed Companies Council
Construction Safety Manager Committee	Korea Electric Railway Technology Association
Korea Railroad Construction Association	Korea Institute of Construction Quality
Korea Remodeling Association	Korea Incident Response Team Association
Construction Health and Safety Council	Korea Software Industry Association
Construction Guarantee Cooperative	Korea Construction transport New-technology Association
International Contractors' Association of Korea	Korea Information Security Chief Executive Officer Association
Construction Safety Executive Council	Korea Electric Association
Engineering Guarantee Insurance	Korea Industrial Technology Association

ACKNOWLEDGMENT

Stakeholder involvement in the publication of the Sustainability Report is crucial for understanding and integrating the company's sustainability management (ESG management). LOTTE E&C plans to expand the participation of both internal and external stakeholders in the report's publication to gather diverse perspectives and enhance internalization.

Area	Organization	Name
Introduction	Strategic Planning Division	Tae Sung Han
		Min Ha Kim
		Byeong Jin Lim
	Financial Administration Department	Soo Jung Hyun
		Seo Yeon Kweon
Business Management	Housing Division	Dae Geun Kwon
	Architecture Division	Dong Ik Shin
	Civil Works Division	Eun Bi Kang
	Plants Division	Hyun Soo Roh
	Overseas Business Division	Seung Yeon Hong
ESG Management	Strategic Planning Division	Tae Sung Han
ESG Impact Book	Strategic Planning Division	Tae Sung Han
	Research & Development Institute	Hyoung Young Ye
		Han Soo Leem
		Ho Young Park
	Health and Safety Headquarters	Tae Gi Kim
		Seong Min Kim
		Kye Hak Nam
	Sourcing and Procurement Division	Gi Beom Nam
	HR Department	Seung Bom Kim
ESG Performance Book	Strategic Planning Division	Tae Sung Han
		Min Jin Kim

Area	Organization	Name
ESG Performance Book	Research & Development Institute	Hyoung Young Ye
		Jae Man Lee
		Han Soo Leem
		Young Joon Yoo
		Ji Hoon Kim
	HR Department	Seung Bom Kim
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