



2023 LG Chem  
**ESG CONFERENCE**

2023.12.06

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# VISION

To achieve our vision, **“We Connect Science to Life for a Better Future”**,  
 LG Chem will become **Top Global Science Company** that leads with **Science** for Sustainability.

*We Connect Science*  
 to life for a Better Future



Customer focus   Agility   Collaboration   Passion   Sustainability

**Leading with Science for Sustainability**

*WeConnectScience*

# LG Chem Sustainability Goals

We do **E**verything for **S**ustainable **G**rowth



2030 Carbon-neutral Growth, 2050 Net-Zero



Transition to 100% Renewable Energy



Transition towards Circular Economy



Zero Waste to Landfill



Ethical and Sustainable supply chain

# 2050 Net-Zero Commitment

We will reduce our Scope 1 & 2 emissions to Net-Zero by 2050

## Reduce

Reduce scope 1 emissions through introduction innovative process and transition to eco-friendly fuels and raw materials

## Avoid

Achieve 100% renewable energy for overseas operations by 2030, and 100% renewable energy for LG Chem global operations by 2050

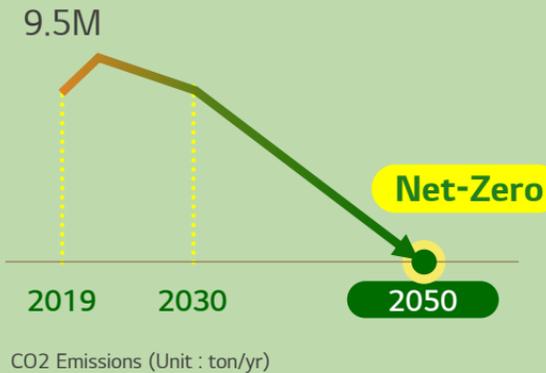
## Compensate

Secure high-quality offset credits and invest in projects that improve environmental & social outcomes

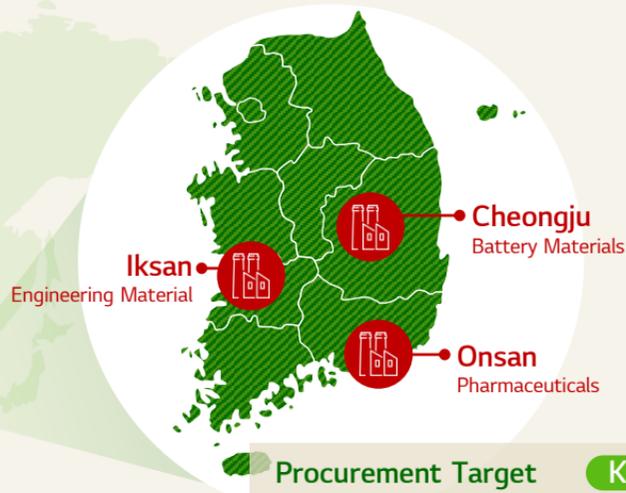


Internal  
Carbon Pricing

Align Management  
Compensation

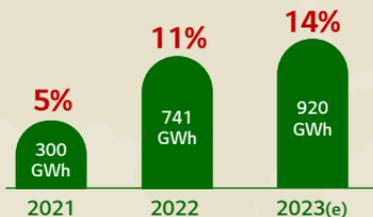


# Transition to 100% Renewable Energy



Transition Rate

Global



Procurement Target

Korea



# How LG Chem manage carbon emission of a product: LCA(Life Cycle Assessment)

A holistic approach to the environmental impacts of our products at every stage of their life cycle will enable us to reduce our footprint. And we aim to complete the LCA for all products by 2023.

## Cradle-to-Grave (From raw material extraction to product use & disposal)



※ July 2023, Korea's first Product Carbon Footprint (PCF) calculation methodology certified by TÜV Rheinland

# Partnerships

## Initiative for Sustainability



- Through partnerships within our value chain, we are establishing a closed-loop circular economy

## Strengthening partnerships for a low-carbon business



- Build a green bioplastic plant in Illinois, US with ADM
- Build a biomass power plant at the Hwachi Plant in Yeosu with GS EPS
- Pursue building a HVO JV plant at the Daesan site in Choongnam with ENI

## Cooperation with third parties & national projects



- Acquire technology through collaborative research & joint laboratory operation with KIST
- Engage public projects to secure commercialization capabilities for electrochemical and biological conversion

# LG Chem's Progress in Safety, Health & Environment

LG Chem has been making meaningful changes by consistently pursuing **differentiated policies** to **prevent accidents** and **comply with laws and regulations**.

To secure a **leading position** as a global chemical company, LG Chem aims to record zero serious accidents by **strengthening the incident prevention system** (Project Magnolia), and achieve ESG goals through **continuous improvement in Safety, Health & Environment**.



Project Magnolia



Environmental Management

# Project Magnolia



In order not to forget the industrial accident that occurred in the spring, we cited the "M" of Magnolia, which has the flower meaning of "noble," to prevent the recurrence of serious incidents and to fundamentally upgrade our environmental safety management capabilities to the global level.

## 1 LG Chem's SHE\* Standards

- Establish/revise technical guidelines incorporating international standards, laws, & operating know-how
- Operate the Mother Factory Policy to upgrade environmental safety & production technology between domestic & overseas plants
- Establish the leader-centered incident prevention system such as risk assessment committees and high-risk work protocols
- Strengthen the emergency response system through cooperation with local govts and secure golden time, such as sending disaster text messages

## 3 Expanding Digitalization

- By putting "people safety as the core value of everything we do," accelerate the transformation to the digitally-enabled Smart Safety Factory to prevent critical incidents
- Establish & promote four core areas of digitalization

Automation of high-risk tasks

Robots for cleaning reactors

Direct control of risky tasks

Real-time detection of gas concentration in confined space

Proactive risk management

Forklift IoT Access Alert System

Rapid detection & response to incidents

Intelligent CCTVs

## 2 Preemptively Identifying & Responding to Risks

- For new investments, introduce the SHE Design Concept and do Prior environmental safety review
- Establish the hazardous materials management system and strengthen the obsolescence management
- Strengthen the direct control/management of contractors' high-risk works
- Regular/planned audit & technical support

## 4 Establishing a culture of prioritizing SHE\*

- Operate the Cardinal Safety Rules system
- Operate motivational programs for voluntary participation
- Conduct SHE awareness survey and listen to VoE

## 5 Strengthening competencies

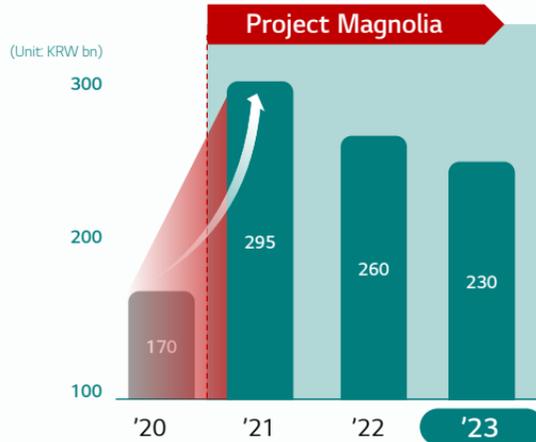
- E&S Academy training to enhance expertise
- Secure global competence by developing local experts and dispatched workers

\*Safety, Health & Environment

# Project Magnolia

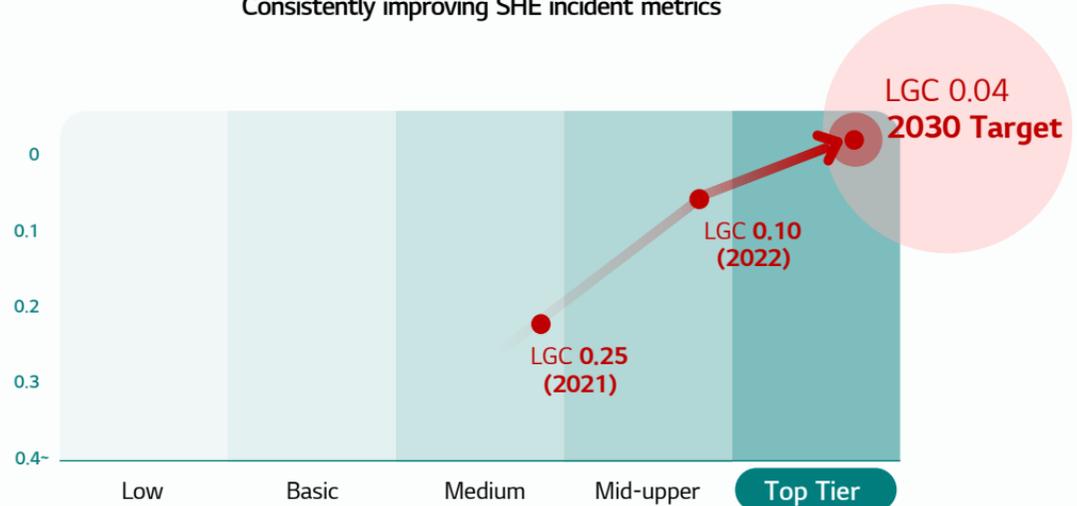
## SHE Investment

Increase SHE investments such as improving high-risk processes/old facilities



## SHE Incident Indicator : LTIR (Loss Time Injury Rate)

Consistently improving SHE incident metrics



\* LTIR : Frequency indicator for lost time injury (LTI) incidents over 1 day  
 = (No. of LTI incidents over 1 day × 200K hours<sup>1)</sup>) / annual work hours  
 1) No. of hours that 100 workers worked in 1 year = (100 workers × 40 hours/week/person × 50 weeks/year)

# Environmental Management

LG Chem operates the Environment Management System (ISO 14001), and conducts improvement activities to protect the environment by reducing pollutants such as air, water, and waste & complying with product environmental laws and regulations.

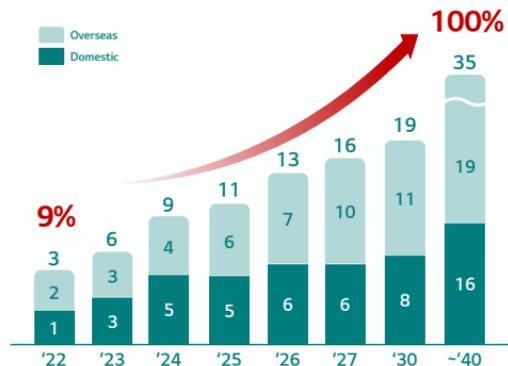
## Air/Water Quality Management

- **Air/water pollutant emission reduction activities**
  - Improve the **air pollution prevention facilities** (application of ozone treatment system to reduce nitrogen oxide air emissions, etc.)
  - **Optimal operation & management** of pollution prevention facilities (applying machine learning techniques)
  - Establish and operate the **real-time monitoring system** to check whether pollutants are discharged appropriately
- **Establish mid-to-long-term goals for improving company-wide air/water quality**
  - **10% improvement in pollutant emissions per unit** by 2030 compared to 2022

## Waste Management

- **Establish mid-to-long-term goals for company-wide waste**
  - Achieve **Landfill Zero\*** certification for **all sites** by 2040

【Landfill Zero Certification Performance & Target】



\* Landfill Zero Certification  
: Certification based on the % of waste generated by the business that is diverted from landfill

## Product Environment Management

- **Establish hazardous substance management standards**
  - **Classify substances to be managed into 3 stages (ban/restrict/reduce)** according to the risk of hazardous substances, and establish & operate management standards for each risk stage.
- **Establish management system to prevent product toxic issue**
  - Use preliminary toxicity review & evaluation of developed products for business decisions

【Chemical Management Performance】



\* % of substances exempted/completed from substance registration among the constituents of products sold  
\*\* % of products containing REACH restricted substances, based on the no. of products sold by year

## The future of **Safety, Health & Environment** envisioned by LG Chem

With the determination that "there is no future if we fail to fix SHE permanently and irreversibly," by establishing a culture of prioritizing environmental safety and innovating digital technologies **we aim to become a science company that leads the world in SHE**

- ▣ **Operating systematic management** through clear regulations & guide-based work processes and by using platform
- ▣ Creating a **Smart Safety Factory** by establishing and implementing digital-based strategies to secure safety of hazardous work, equipment, and materials
- ▣ Establishing **active participation culture of members** based on thorough compliance monitoring and continuous motivational activities
- ▣ Enhancing **sustainability** and **brand value** through **protecting the environment** and **transitioning to a circular economy**



**THANK YOU**