

LG Chem, Thriving in Chaos

Chief Executive Officer, LG Chem

Hak Cheol (H.C.) Shin

May 16, 2023

Unprecedented External Changes :

Seismic, Unpredictable & Simultaneous



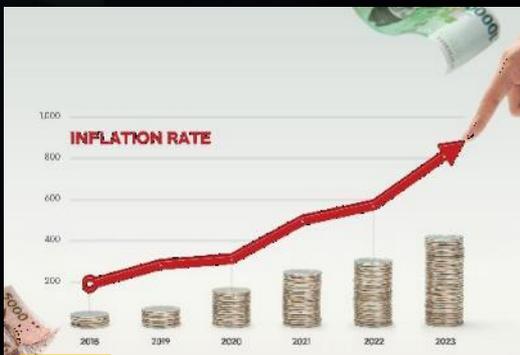
Climate Change



Energy Transition



Pandemics



Global Inflation



Trade Conflict



Russia-Ukraine War

LG Chem Four Corporate Initiatives (Feb, 2019)

01

Portfolio Shift
to Future
Mega-Trend

02

Innovation &
Differentiation

03

Efficiency
Everywhere

04

Global/Contemporary
Culture



2020 Covid 19 Pandemic – LG Chem's Crisis Management Principle (Feb, 2020)



Control What
We Can Control



Don't Mortgage
the Future



Preserve Cash

LG Chem Brand Value

Top 10 Most Valuable Brands

1	 BASF We create chemistry	—	2022 : \$8,348m 2021 : \$7,285m	+14.6%
2		—	2022 : \$4,670m 2021 : \$4,017m	+16.2%
3	 LG Chem	▲ 1	2022 : \$4,297m 2021 : \$3,602m	+19.3%
4		▼ 1	2022 : \$4,293m 2021 : \$3,729m	+15.1%
5		—	2022 : \$3,578m 2021 : \$2,679m	+33.6%
6		—	2022 : \$3,033m 2021 : \$2,282m	+32.9%
7		—	2022 : \$2,318m 2021 : \$2,126m	+9.0%
8	 荣盛石化股份有限公司 RONGSHENG PETROCHEMICAL	▲ 2	2022 : \$2,292m 2021 : \$1,604m	+42.9%
9		—	2022 : \$2,119m 2021 : \$1,856m	+14.2%
10		▲ 5	2022 : \$2,099m 2021 : \$1,355m	+54.9%

Brand value of
chemical Companies

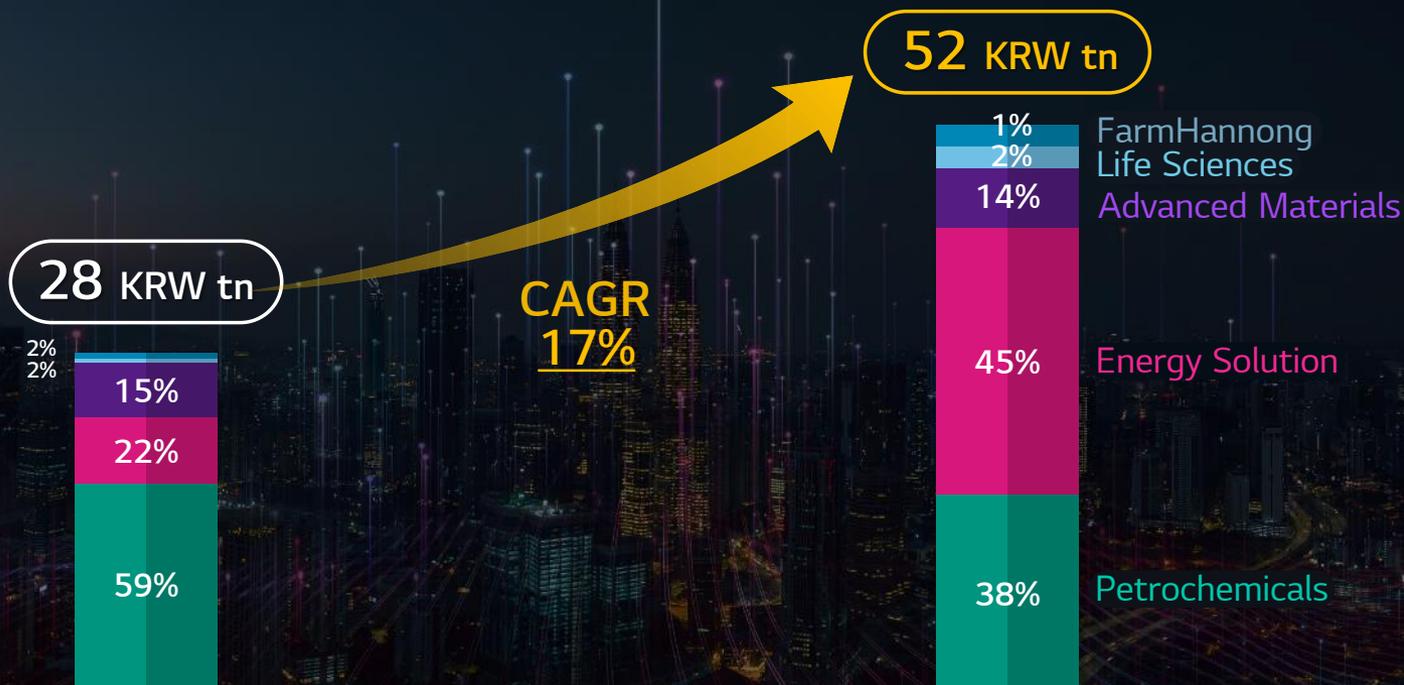
Global No.3

* Source: Brand Finance Group, U.K.

LG Chem Revenue Growth for the Last 4 Years

2018

2022



LG Chem Market Capitalization Change for the Last 4 Years

End of 2018

As of 2023

(Unit : KRW tn)

25

As of Dec 28, 2018

(Including Battery business unit)

55

As of April 28, 2023
(LG Chem Only)



LG Chem, Prospering in the Pandemic

**Global Top 100,
Whose Market Cap
Grew the Most
During Pandemic**

FINANCIAL TIMES

FRIDAY 19 JUNE 2020 INTERNATIONAL NEWSPAPER OF THE YEAR USA \$2.50 CANADA C\$3.00

Prospering in the pandemic 2020 **THE TOP 100** (Financial Times Selection 2020)

In a dismal year for most companies, a minority have shone: pharmaceutical groups boosted by their hunt for a Covid-19 vaccine; technology giants buoyed by the trend for working from home; and retailers offering lockdown necessities online. Public companies had the tailwind of a surprisingly robust stock market – which many believe is a bubble. To rank companies that prospered in the pandemic, we have chosen to look at equity value added. Later in the series, we will look at an alternative gauge of success, as well as the big corporate losers and four thematic winners: pharma, cloud computing, ecommerce and gaming. Tom Braithwaite



LG Chem Major Events from 2019 to 2022

01

Successful
Pandemic Recovery

02

LG Energy Solution
Split-off
(2020)

03

Three New Growth
Drivers Launched
(2021)

04

2050 Carbon
Net-Zero Declared
(Firstly in 2020 &
Upgraded in 2022)

05

Significant
Portfolio Actions

06

Digital
Transformation
Initiative
(2019)

07

Global Business
Service Center
(2020)

LG Chem's EV Battery Business Chronology

- 1995 Started Lithium-Ion Battery Development
- 1999 Commercialized Small Battery
- 2000 EV battery Development Started
- 2009 HEV Lithium-Ion Battery Commercialized (World's first)
- 2010 PHEV Lithium-Ion Battery Commercialized (World's first)
- 2022 LG Energy Solution Split-off and IPO – Market Cap Over KRW 100 tn



- Battery Order Backlog : KRW 385 tn (as of Dec, 2022)
- More Than 30,000 Battery Related Patents

LG Chem's Exciting Transformation



From **Petrochemical Company**



To **Global Science Company**

LG Chem's 3 Future Growth Drivers



Battery
Materials



Sustainability
Business



Innovative
New Drugs



LG Chem's 3 Future Growth Drivers



Battery
Materials



Sustainability
Business



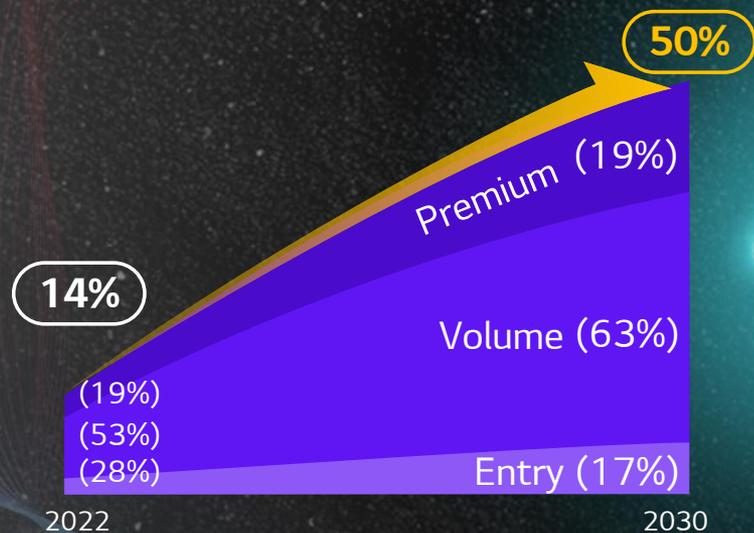
Innovative
New Drugs





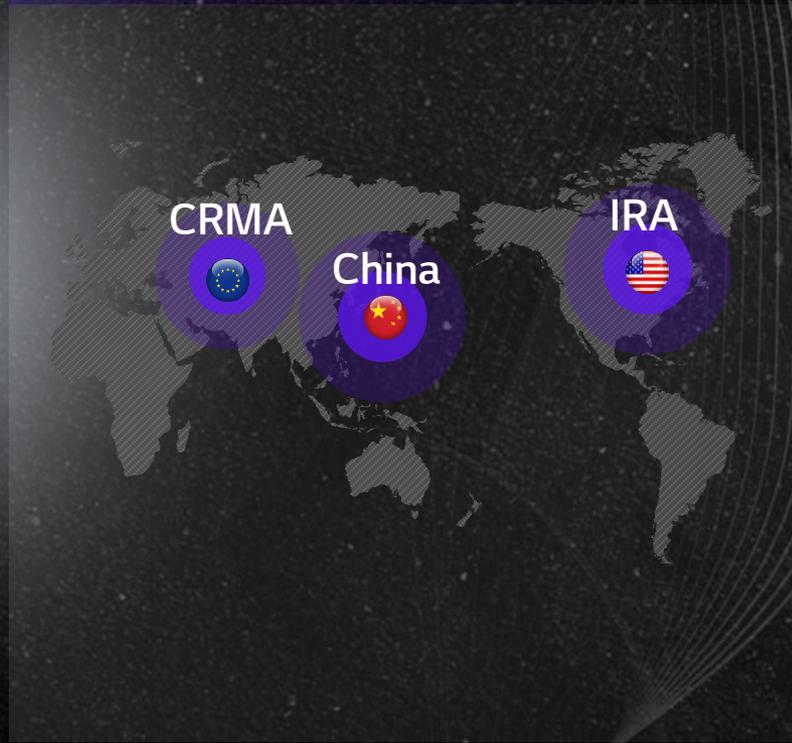
Changes in EV Industry

1. EV Penetration & EV Segment



※ Source : Market Data & Company Estimation

2. EV Market Regionalization





Moving towards Global Top Comprehensive Battery Materials Company



Cathode



Separator



Additional
Battery
Materials



New Materials,
New Business



LG Chem's Leadership in Cathode

1. Technology Leadership

2. Market Leadership

3. Metal Sourcing Leadership

Maintaining Leadership in High-Ni Cathode



- Maximization of Energy Density
: Ultra High Nickel (>95%)
- Improvement in Stability & Safety
: Single Crystal

Developing More Cost-efficient Solution



- High Voltage NCM (Mid-Ni)
- LFP
- Mn-Rich

- Innovating & Enhancing Process Engineering
- Keeping & Protecting IP Competitiveness



LG Chem's Leadership in Cathode

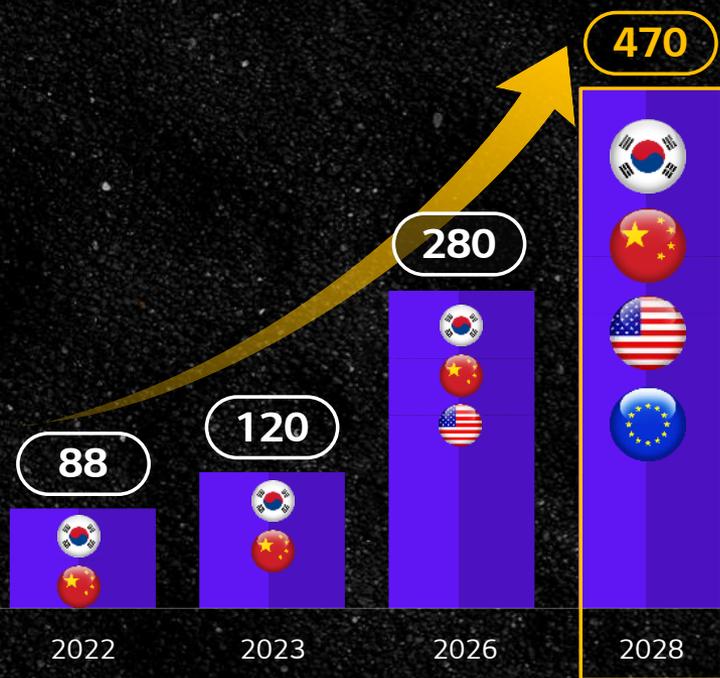
1. Technology Leadership

2. Market Leadership

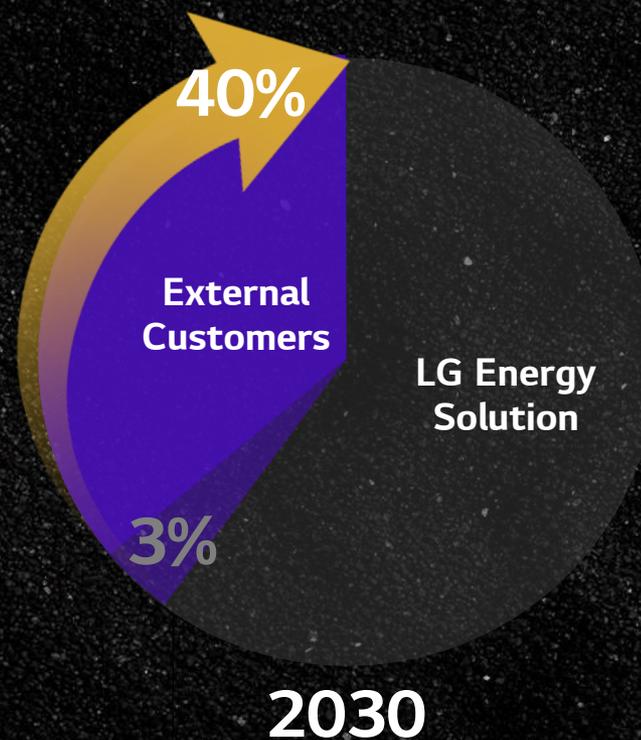
3. Metal Sourcing Leadership

Expansion of Capacity

(Unit : K ton)



Diversification of Customer Portfolio





LG Chem's Leadership in Cathode

1. Technology Leadership

2. Market Leadership

3. Metal Sourcing Leadership

Securing supply chain for stable supply and higher profitability
& Setting up recycle eco-system across the world



China

- Quzhou Precursor JV
- Lithium Long-term Contracts



North America

- Li-Cycle Minority equity investment
- Piedmont Lithium Off-take Contract



Korea

- KEMCO Precursor JV
- Saemangeum Precursor
- Investment on Recycling Company (Jaeyoungtech)



Australia

- Cooperation with Lithium Miners



And More...





BATTERY MATERIALS



LG Chem's Expansion in Separator



No.1
Coating
Technology



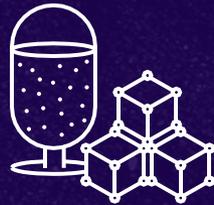
Partnership
with Toray



Capacity Expansion
across the World



Additional Battery Materials & New Business Opportunities



Additional Battery Materials

- CNT
- Anode Binder
- Cathode Dispersant



New Materials, New Business

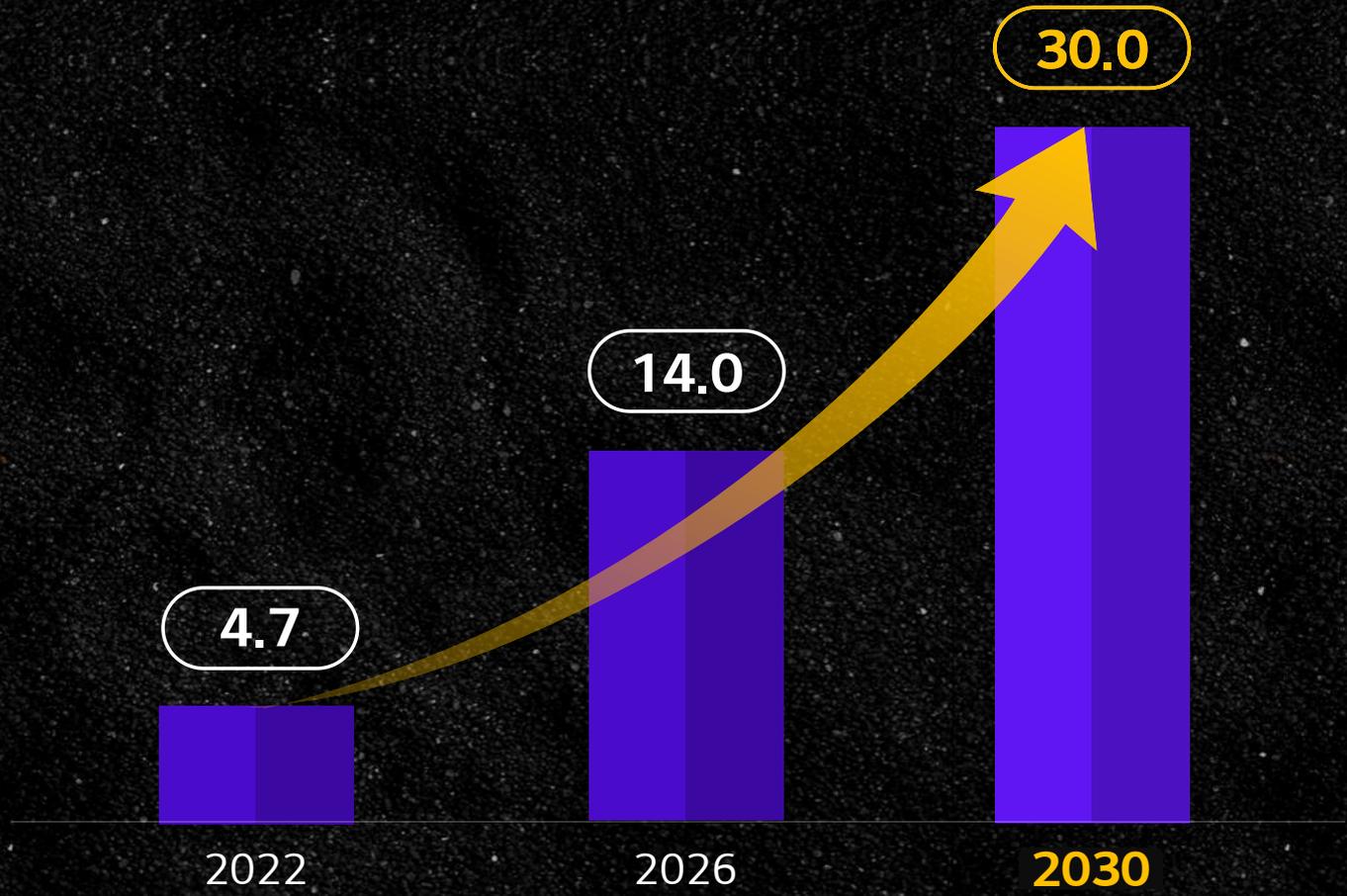
- Pure Silicon Anode
- Electrolyte for Solid State Battery
- Advanced Battery Materials



Global Top Comprehensive Battery Materials Company

Revenue Outlook for Battery Materials

(Unit : KRW tn)



※ The estimated amount of the business target is based on business plan and may differ from the actual amount due to changes in the business environment and strategy

LG Chem's 3 Future Growth Drivers



Battery
Materials



Sustainability
Business



Innovative
New Drugs





Changing Petrochemical Business more towards Sustainability Business



Recycled Material

- Mechanical Recycling
Expansion of Products
Foundation of Ecosystem
- Chemical Recycling
Initiation of Pilot Production
(2024)



Bio
/Biodegradable
Material

- PBAT (MP: 2024, 50K ton)
- PLA (MP: 2026, 75K ton)
- Bio-Balanced Products
HVO, Bio-Feedstock



Renewable
Energy Materials

- Materials for Solar Panels
- POE Capacity Expansion
(280K ton → 380K ton, Oct 2023)



Changing Petrochemical Business more towards Sustainability Business



PLA(Poly Lactic Acid)
 Made with lactic acid
 produced by fermenting corn



Biodegradable Application
 (Ex. Disposable plastic utensils)
 decomposed within a few months

JV agreement with ADM (Aug, 2022)
 Construction begin in 2023
 Mass production begin in 2026 (75K ton)



Changing Petrochemical Business more towards Sustainability Business

Revenue Outlook for Sustainability Business

(Unit : KRW tn)



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LG Chem's 3 Future Growth Drivers



Battery
Materials



Sustainability
Business



Innovative
New Drugs





INNOVATIVE NEW DRUGS

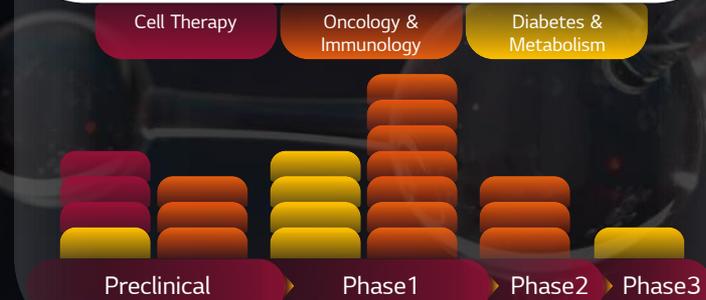


Global Pharmaceutical Company with Innovative New Drugs

Global Pharmaceutical Company

- Specialized in Oncology
- 5 Innovative New Drugs by 2030

Expanding Pipelines



Enhancing Commercialization Capabilities

AVEO
ONCOLOGY
an LG Chem company



INNOVATIVE NEW DRUGS

Successful M&A Closed - Aveo Oncology



AVEO
ONCOLOGY
an LG Chem company

Innovative Oncology Drug
Developer in the U.S.

Fotivda® for RCC treatment launched

*RCC : Renal Cell Carcinoma

Former NASDAQ Listed Company
with 2022 Revenue
over USD 100M

Consolidated into LG Chem
in Feb, 2023

Revenue Outlook for LG Chem's 3 Future Growth Drivers

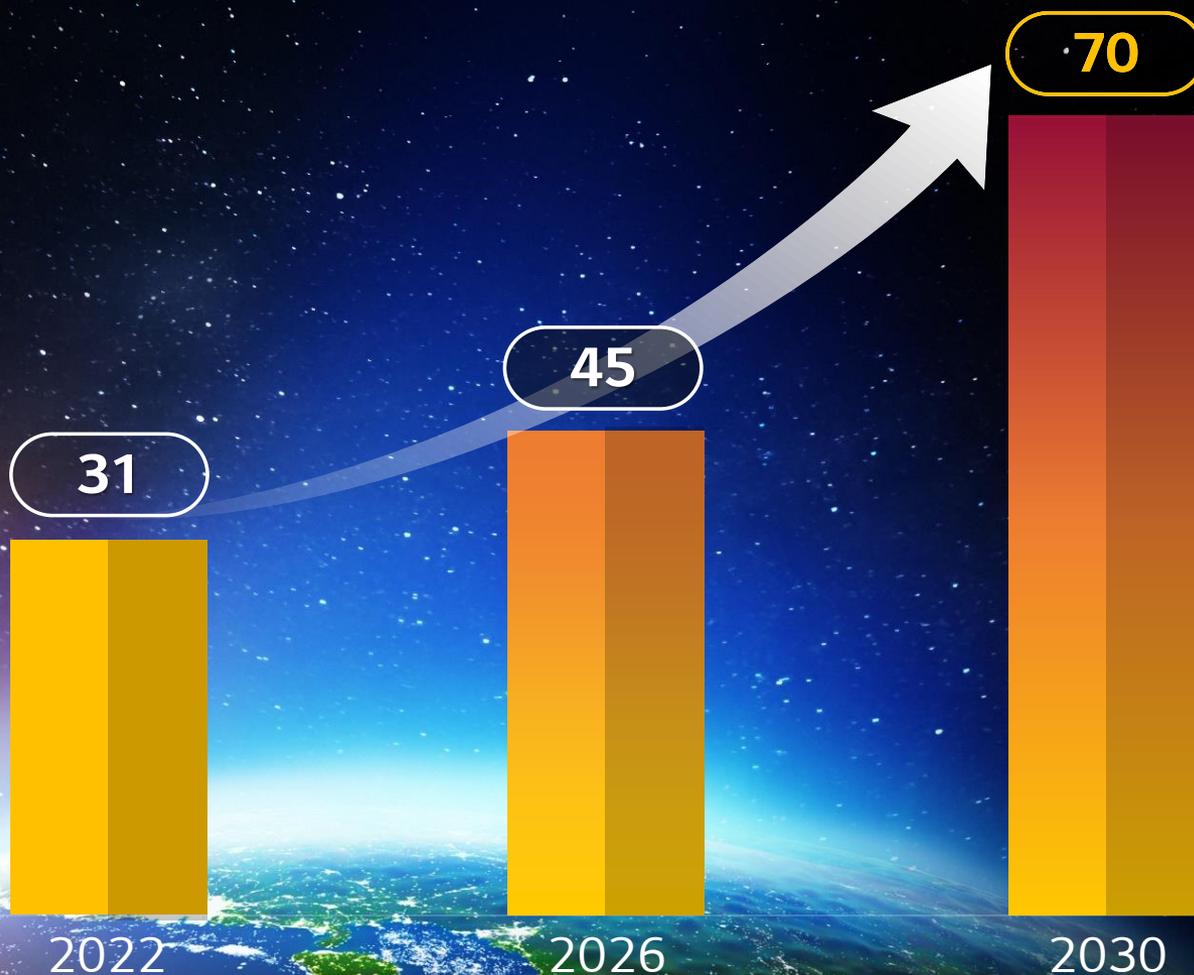
(Unit : KRW tn)



※ The estimated amount of the business target is based on business plan and may differ from the actual amount due to changes in the business environment and strategy

Revenue Outlook for LG Chem (Excluding LG ES)

(Unit : KRW tn)



※ The estimated amount of the business target is based on business plan and may differ from the actual amount due to changes in the business environment and strategy

LG Chem's Dedication
to the **Sustainable Growth**

LG Chem's Sustainability Approach



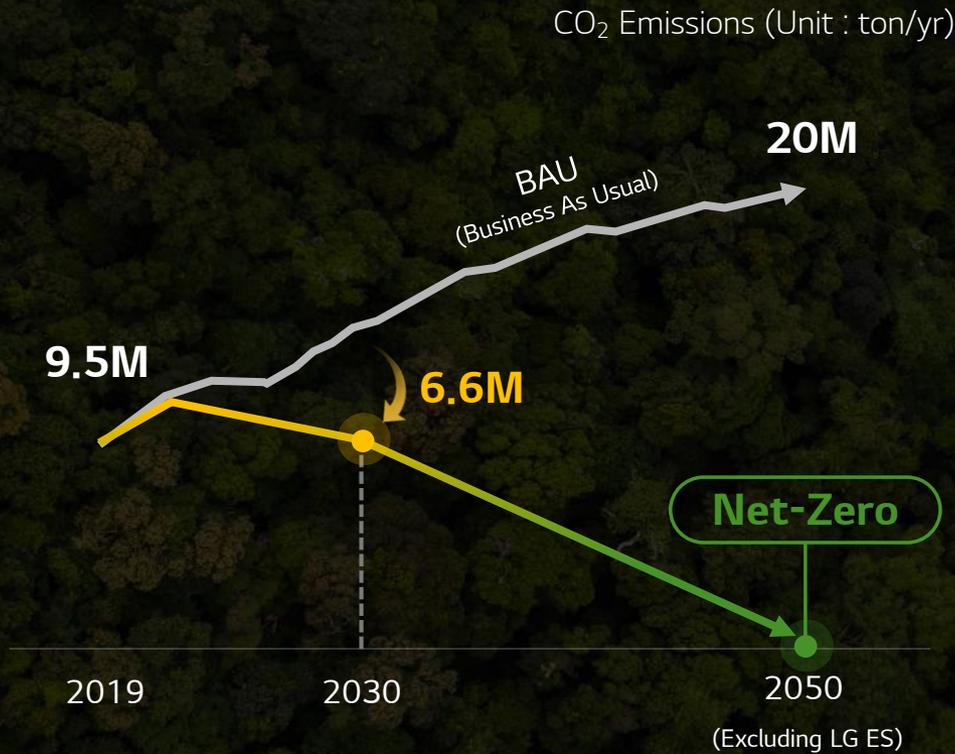
1. 2050 Net Zero Commitment

2. Build Sustainability Business

3. Global Leadership

2050 Net-Zero Commitment

Executing Net-Zero Strategies, reducing CO₂ in Scope 1 & 2



Reduce

Energy Efficiency Innovation



Avoid

Renewable Energy 100% for Overseas by 2030, for domestic by 2050



Compensate

Developing Carbon Offset Projects



LG Chem's Actions to Achieve 2050 Net Zero



1. Renewable Energy Transition
2. Low Carbon Emitting Process Development
3. Fuel Switching to Low Carbon Fuel
4. Feedstock Switching to Biofuel
5. CCU Technology
6. Portfolio Shifting to Low Carbon
(Applying 'Internal Carbon Pricing' since 2023)



Expanding to measuring Scope 3 emission



Completing
LCA in 2023

Building up Partnership
for Carbon Reduction Model

Reducing CO₂
in Scope 3

BUILD SUSTAINABILITY BUSINESS

 LG Chem

Launch of Integrated Green Brand 'LET Zero'

LETzer 



Global Leadership in Sustainability

World Economic Forum



WORLD
ECONOMIC
FORUM

The Alliance of CEO Climate Leaders

Largest CEO-led
Climate Alliance
In the World



119
Companies



12
Industries



27
Countries

Thank You



LG Chem

Top Global Science Company