

SUS

Sustainability with us

Compelling Technical Enabler, Empowering Partners
in Accelerating Sustainability Innovations



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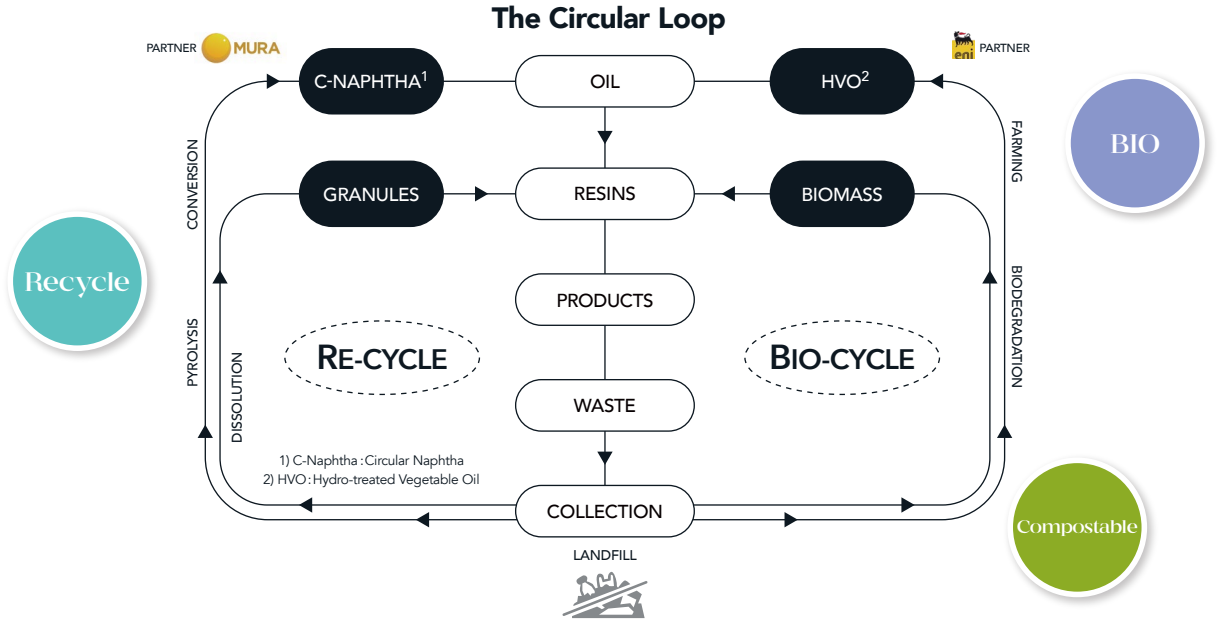
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Compelling Technical Enabler,

Empowering Partners in Accelerating Sustainability Innovations

We are willing to be an 'Enabler' for customers who want to achieve their sustainability goals.

When you conceive and develop eco-friendly products, our diverse materials in our circular loop will support your journey.



Paving the Way to a Greener Tomorrow through
Compelling Technical Advancements and Sustainable Strategies

Global
Network

Customer-oriented
Experts

Collective
Alliance

Decarbonization
Efforts

Portfolio

LG Chem serve as a solid stepping bridge toward sustainability

Together, we can create a leadership focused on sustainability for our future

Recycle

PCR and Circular Balanced materials by recycling discarded plastics with our unique technology to complete a closed loop

Compostable

Certified Compostable materials are bioplastics that decompose into water and carbon dioxide within a few months

BIO

Bioplastics are derived from plant ingredients with low carbon emissions to reduce environmental impact

Partners :  MURA

Recycle

PCR and Circular Balanced materials
by recycling discarded plastics with our
unique technology
to complete a closed loop

Reusing materials through mechanical recycling

PCR Post Consumer Recycled

Extract plastics from end-of-life products and mechanically reproduce plastics that have equivalent level properties to conventional materials

Main Features

- **Outstanding performance as conventional materials**
(Transparency, Thermostability, Chemical Resistance)
 - **Partnerships with various industry leaders**
(e.g. Amore Pacific, CJ Logistics, LG U+, KT, COSMAX)
 - **Responding to global regulations on recycled materials**
 - **Produce the world's first white PCR ABS (Various colors / grades)**
-

Key Materials

- PCR PC / ABS, PP, PE, PVC, OBP



Cosmetics (PCR PP / PE / ABS)



E&E (PCR PC / ABS)



Automotive (PCR ABS / PP / PE)

Restoring plastic back to its base materials

Circular Balanced (Mass balance Approach)

Produce circular pyrolysis oil from used plastics, which can be re-injected into the process to produce plastics



Food Packaging (Circular Balanced PE/PP)

Main Features

- **Strategic partnership with  MURA** (UK's plastic recycling technology developer)
 - *Complete the construction of **Supercritical pyrolysis oil plant** using Mura Tech. 'HydroPRS™' (2024, 20,000 tons/year)
 - Contaminated or complex composite materials which are difficult to recycle can also be recycled
 - Most of plastic wastes are produced from pyrolysis oil, and the rest is reused as energy for production
- **The equivalent physical properties to conventional products**
(Drop-in solution without changing the formulation)
- **Responding to global regulations on recycled materials**
- **Credit can be customized / 59+ ISCC PLUS certified** 

Applications

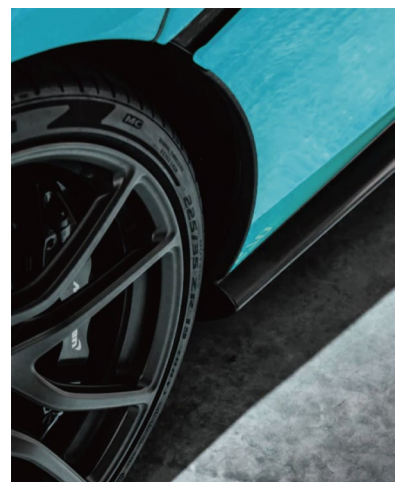
Applicable to most materials produced by LG Chem

Business Plan

| Year | ~2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|--------------------------|---|-------------------------|----------|---|------|------|
| Circular Balanced | Partnership with  MURA | Demo-plant Constructing | Start-up | Commercial  (20 KTA) | | |



Raw materials for paint



Tire (Circular Balanced SSBR)

Compostable

Certified Compostable materials
are bioplastics that fully break down
under specific timeframe and conditions

Go Beyond Materials

COMPOSTFUL™

The certified compostable materials, COMPOSTFUL™ ensures that nothing is left behind after use, making it an ideal solutions for end-of-life products. PBAT, PBS, PLA and its compounds are readily available



Find out more

Main Features

- Industrial compostable certifications and food contact materials compliance
- Utilizing in-house capabilities for rapid screening through laboratory and pilot scale testing

SF1000, SF2110, SF2110M

SF1000



Food Packaging



Mulch film

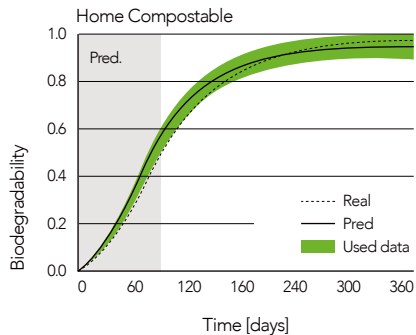
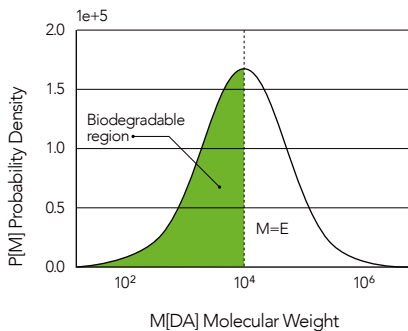
Applications

- Produce bags, Food wrap, Barrier packaging, Mulch films, CRF(Controlled Release Fertilizer)

✂ Predictive Modeling of Biodegradation

Predictive modeling to confirm biodegradation and boost certification success

By determining parameters associated with each phenomenon, we elucidated the individual impacts of factors on biodegradation curves.



Business Plan

| Year | ~2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|--------------------|-------|---------------|---------------------|------|------|------|
| COMPOSTFUL™ (PBAT) | | Pilot (3 KTA) | Commercial (50 KTA) | | | |

BIO

Bioplastics are derived
from plant ingredients
with low carbon emissions

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Eco-friendly plastic made from plant ingredients

BIO-BASED

Bio-based materials are derived by corn starch and sugarcane which is effective in reducing carbon. It can diverse applications through compounding with other materials

Bio-PA

Main Features

- With high effect of carbon reduction, it helps customers achieve their sustainability goals and enhance of eco-friendly value
- Stabilize manufacturing through cooperation with top-tier company that produces bio raw material (*PMDA)
- Based on excellent dyeability, flame retardant and durability, it can be applied to various applications



Applications

- **Apparel** : Outdoor (Outer, Shoes, Bags) / Premium athleisure (Sportswear, Activewear) / Innerwear
- **Industrial** : Tire code, Air-bags, Car mats
- **Compound** : Automotive/E&E, Furniture, Toys

PLA

Main Features

- 100% Plant-based biodegradable bioplastic, produced from lactic acid, which is obtained by fermenting glucose extracted from sugarcane
- One of the most widely-known bio materials in the market due to diverse applications through compounding with other materials
- Harmless to the human body with antibacterial and deodorizing properties
- With high effect of carbon reduction, it helps customers achieve their sustainability goals

Applications

- **Functional clothing** : Sportswear, Medical
- **Personal care** : Hygiene or Skin Hypoallergenic products
- **Packaging** : Rigid, Films, Shopping bags, Mulch film, Paper coating



Coffee Pods (PLA)

Business Plan

| Year | ~2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|--------|-------|------|-----------------|------------|------|---------------------|
| BIO-PA | | | Pilot (0.15KTA) | Scaling Up | | Commercial (25 KTA) |





Apparel (Bio-PA)

Eco-friendly raw materials to reduce carbon emission

Bio-Circular Balanced ^{Drop-in} (Mass balance Approach)

Incorporating bio-renewable feedstock extracted from plant-based oils with fossil-based oil, adding the benefit of low carbon emission

Main Features

- Enhancement of eco-friendly value
- Joint Venture agreement of new biorefinery plant for internalization of HVO¹ with  (400,000² tons/year, 2027)
1) Hydrotreated vegetable oil 2) Renewable bio-feedstocks
- Strategic partnership with **NESTE** for diversification of raw materials (renewable feedstock: UCO, PFAD)
- The same physical properties as conventional products (Drop-in solution without changing the formulation)
- Credit can be customized / 59+ products ISCC PLUS certified 



Container (Bio-Circular Balanced PE/PP)

Applications

Applicable to most materials produced by LG Chem

Business Plan

| Year | ~2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|-------------------------------------|-------|--------|--------|------|---|---------|
| Bio-Circular Balanced (Bio Naphtha) | | 10 KTA | 35 KTA | |  HVO  Production | 400 KTA |



Hygiene (Bio-Circular Balanced SAP)



Shoes (Bio-Circular Balanced EVA)

LETZer 

