



GREEN
PROMISE
2030



Eco-friendly Solution

Material & Technology



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LOTTE CHEMICAL

Sustainable Management System



7 AFFORDABLE AND CLEAN ENERGY
7. Ensure access to affordable, reliable, sustainable and modern energy for all

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
12. Ensure sustainable consumption and production patterns

13 CLIMATE ACTION
13. Take urgent action to combat climate change and its impacts

The SDGs stand for 'Sustainable Development Goals', which was adopted by the UN General Assembly. The term refers to global goals that the UN and the international community aim to achieve from 2016 to 2030.

Implementation of UN SDGs

LOTTE Chemical is taking the lead in implementing the UN's Sustainable Development Goals. We are focused on achieving carbon neutrality and creating a circular cycle of resources, thereby contributing to the Goal 7, 12 and 13. We believe our efforts will help the world move forward.

LOTTE CHEMICAL

Eco-friendly Strategy & Goals

GREEN PROMISE 2030

Every Step for GREEN



INITIATIVE & SLOGAN

LOTTE Chemical is carrying out core tasks after it mapped out its eco-friendly business strategy by introducing the "Green Promise 2030" initiative in a bid to better implement ESG management drive and secure future growth engines.

[ESG] Environmental Management

LOTTE Chemical is actively applying ESG criteria to its management in an effort to become a sustainable company. In particular, the company is implementing enterprise-wide environmental management by analyzing global eco-friendly trends and risks, and drawing up a preemptive response system.

Environmental management roadmap



Management to minimize environmental impact

- Setting up and operating environmental management and governance
- Certification of eco-friendly management system
- Setting reduction targets for climate change indicators and managing risks
- Efficient energy use and reduction policy implementation
- Management of water resources, waste and soil, while minimizing air
- Eco-friendly management activities

STRATEGY



Climate crisis response

Green ecosystem

Eco-friendly business

Resource recirculation

2030 GOAL



Achieving carbon neutrality by 2050 [Net Zero]
Expanding renewable energy use [RE 100]

Establishing eco-friendly ecosystem based on technologies and systems

Eco-friendly specialty and green energy materials

Establishing a system for a circular cycle of plastic resources

LOTTE CHEMICAL [Advanced Materials]

Integrated Resource-circulating Solutions

In line with the enterprise-wide eco-friendly strategy and goals, LOTTE Chemical's Advanced Materials business introduces [the integrated eco-friendly and resource-circulating solutions], featuring a range of fields from recycling process technology and product lineups to quality management system and certifications.

01

Resource-circulating technology platform and products

- ① High-quality and eco-friendly recycling technology & product lineup
- ② Continued R&D support for recycling technology

02

Global supply and production management system

- ① Partnerships with global providers of renewable raw materials to secure a stable supply
- ② Operation of regional production hubs
- ③ Expansion of the eco-friendly market through joint development with customers

03

Strict quality control and certification standards

- ① Operation of a thorough in-house quality management system
- ② Securing the reliability of product quality by obtaining certifications from official institutions



LOTTE CHEMICAL [Advanced Materials]

Recycled Plastic Production Platform

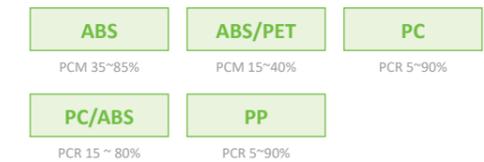
LOTTE Chemical's Advanced Materials business offers diverse lineups for each process of the resource circulation cycle in a bid to meet the customer's need for eco-friendly products, based on the company's recycled plastic production platform that utilizes its proprietary technology and expertise, and its strict quality control.

01

MECHANICAL RECYCLING

A recycling process solution that [shreds post-consumer plastic products and then reuses them in the production process]

Line-ups



02

CHEMICAL RECYCLING

A recycling process solution that [uses the chemical decomposition to extract raw materials from post-consumer plastic products]

Line-ups



03

CLOSED LOOP RECYCLING

A circular recycling process solution that [collects plastics used in post-consumer products, and then recycles them for the production of the same finished products]

SOLUTION 01. MECHANICAL RECYCLING

In line with the enterprise-wide eco-friendly strategy and goals, LOTTE Chemical's Advanced Materials business introduces [the integrated eco-friendly and resource-circulating solutions], featuring a range of fields from recycling process technology and product lineups to quality management system and certifications.

PROCESS



PRODUCT LINE-UP

PC		PC/PBT		PC/ABS			
50%	GW-1029	20%	GW-3080 (m)	10%	GW-1069 (m)		
[FR] 20%	GC-1022U (1.5 V0)	PC/GF		[FR] 15%	GC-1101 (1.5 V0)		
[FR] 5~90%	GV-102X (1.0 V0) ***	30%	GW-3203	30%	GW-1070 (m)		
		[FR] 30%	GC-3203 ***	50%	GW-1069S *** (m)		
				80%	GW-1041		
				[OBP]**	GV-1155B/1005B (OBP 5%+PCM 45%) ***		
				50%			
PP		PP-TD		PP-GF (GF 30%)		PP+EPDM	
50%	ET-310 (m)	20%	A-352R (TD 20%) *** (m)	20%	LGI-161R *** (m)	20%	ER-362 (m)
		20%	A-353R (TD 30%) (m)	30%	RG-153 (m)	70%	ER-321F (m)
		50%	AR-354 (TD 40%) (m)			95%	ER-321 (m)
ABS		ABS/PET		ABS/PC			
35%	GC-0735 ***	28%	GC-0700	20%	GW-1020 (m)		
55%	GC-0755	40%	GC-0730	30%	GW-1030 (m)		
85%	GC-0785	[OBP]**	5% GC-0705				

* % : PCR Content | ** Ocean Bound Plastic | *** Under development | (m) Mobility application

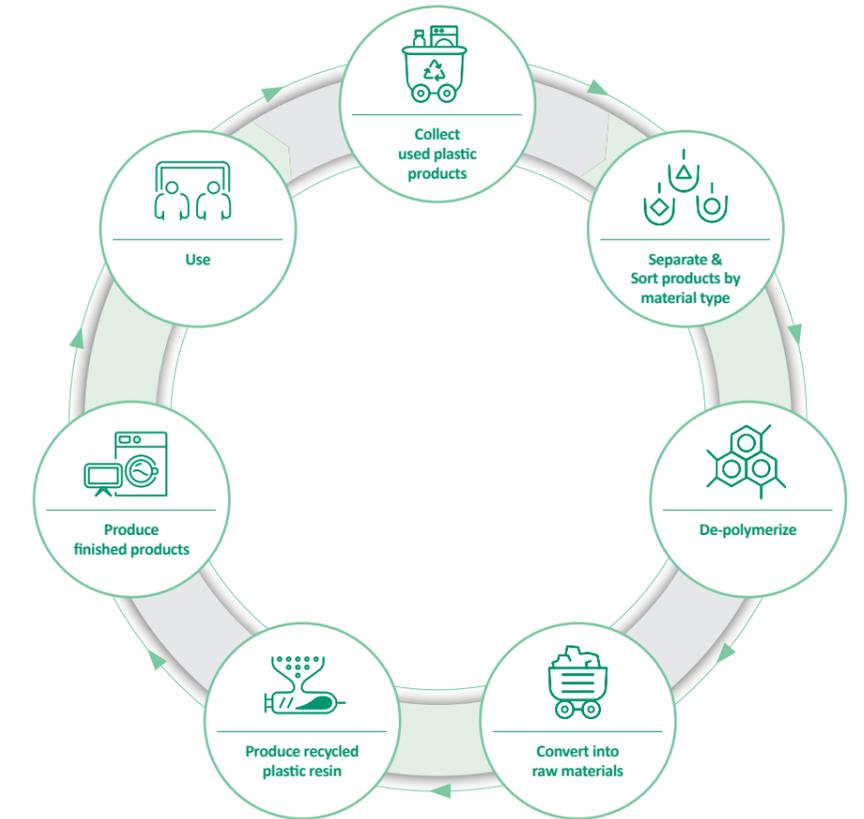
APPLICATIONS



SOLUTION 02. CHEMICAL RECYCLING

Chemical recycling refers to a recycling process in which post-consumer products or by-products from processes are converted into secondary raw materials through thermal de-polymerization. LOTTE Chemical has applied chemical recycling to the mass production of transparent MABS for the first time in the world.

PROCESS



PRODUCT LINE-UP

MABS	Transparent		
		20%	GV-0510
		35%	GV-0520
		35%	GV-0520I

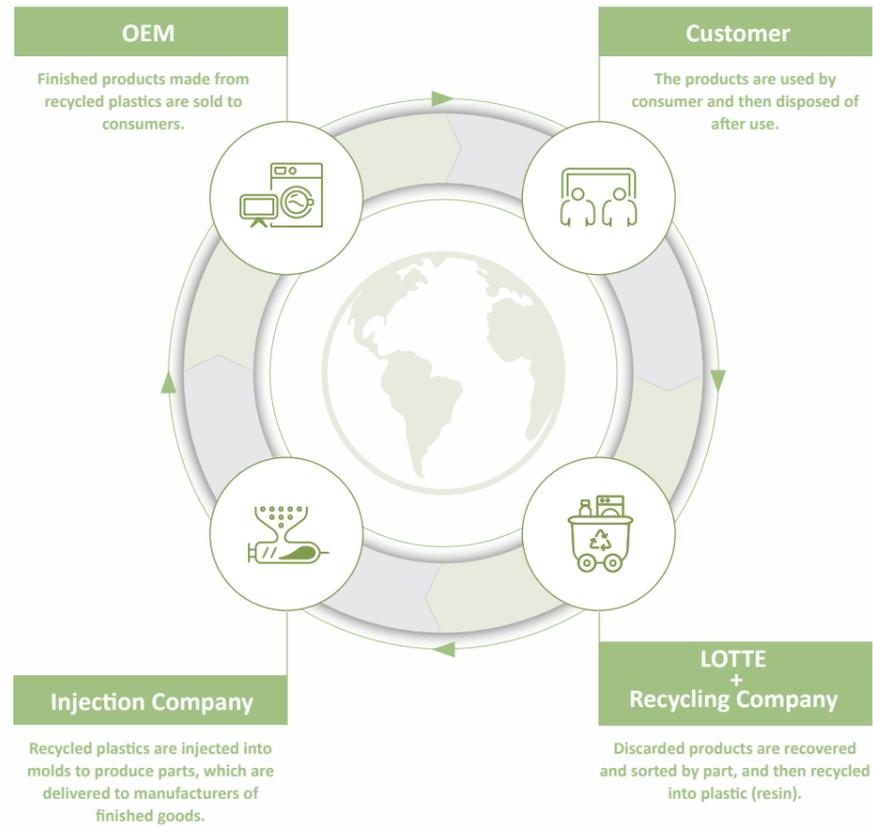
APPLICATIONS



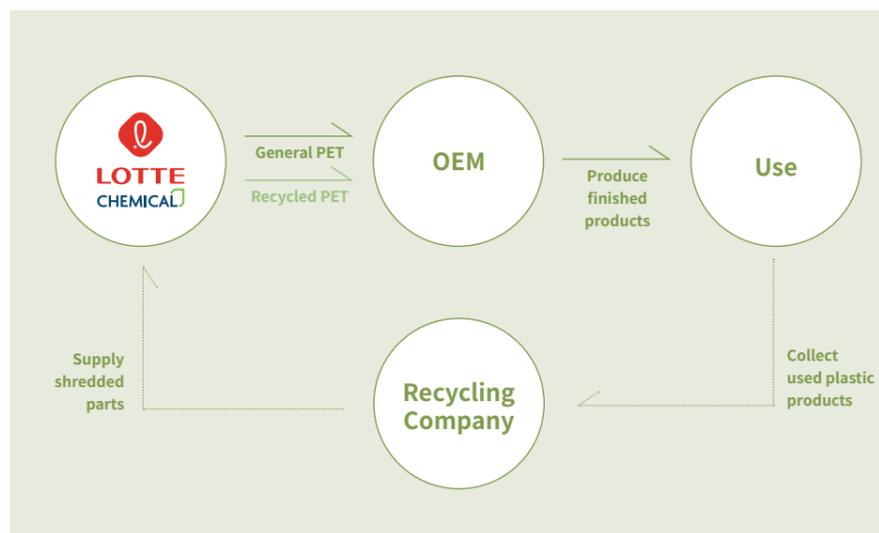
SOLUTION 03. CLOSED LOOP RECYCLING

LOTTE Chemical has been paving the way for creating a circular economy by establishing a closed-loop process that maximizes waste reduction and retains product quality in collaboration with multiple global customers.

PROCESS



COLLABORATION CASE



Environmental Assessment & Certification

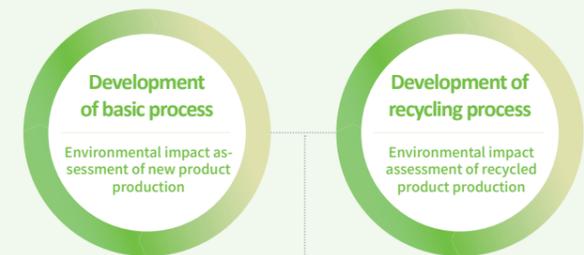
LOTTE Chemical provides certification solutions tailored for customers through the assessment of external certification bodies, in an effort to meet the surging demand for environmental certification in relation to global warming and pollution.



UL – EPD (Environmental Product Declaration)

LOTTE Chemical has undertaken the environmental impact assessment on the production process of its compounding products in accordance with ISO 14040, and obtained the UL's EPD (Environmental Product Declaration) certification, based on ISO 14025.

(*PRC PC [GC-1214] production process)



UL – ECV (Environmental Claims Validation)

LOTTE Chemical's eco-friendly product lineup has received UL's Environmental Claim Validation (ECV) for environmental assessment criteria.



* Select an item and proceed for assessment

CASE STUDY

MECHANICAL RECYCLING

	1	3	4	4
Application	 Air conditioner	 Laptop	 TV remote control	 Automotive - Under cover
Product	ABS/PET GC-0700	PC/ABS GC-1101	PC/ABS GC-1017	PP ER-321
Region	Global	Korea	Global	Global (U.S.A., Europe)
Key features	Chemical resistance	- Impact strength - Colorability	Flame retardant (Over V-1)	Weatherability

CHEMICAL RECYCLING

	1	2
Application	 Washing machine - Window display	 Cosmetic case
Product	Transparent MABS GV-0510	Transparent MABS GV-0520
Region	Global	Global (Korea, France, U.S.A)
Key features	World-first Transparent MABS based of the chemical recycling process : Transparency, Surface quality & Impact strength	



[World's first chemically recycled transparent material applied to BIC razors]

BIC, a global manufacturer of plastic products, has incorporated LOTTE Chemical's first-ever chemically recycled transparent MABS in the production of women's razors, in an attempt to respond to the stepped-up regulations on the use of disposable plastics in Europe.

Product	Transparent MABS GV-0520
OEM	BIC (Europe)
Application & Model	Women's razors - Click 3 Soleil, Click 3 Soleil Sensitive, Click 4 Soleil
Key features	Balanced properties - Transparency, Surface quality, Impact strength & Flowability

Global Network [Advanced Materials]



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