



# Herzlich Willkommen

im Namen von



zum



## Technologietag 2023

ebmpapst

|               |                          |
|---------------|--------------------------|
| Name          | <b>Tobias Eckhardt</b>   |
| Alter         | 50 Jahre                 |
| Familienstand | Verheiratet              |
| Kinder        | 1 Sohn                   |
| Wohnhaft      | Missen-Wilhams im Allgäu |
| Homeoffice    | Ja                       |
| Tätigkeit     | Key Account Manager      |
| Unternehmen   | EPSAN Deutschland GmbH   |
| Seit          | 01.03.2022               |
| OEM           | BMW                      |
| Kunden...     | ...                      |





epsan<sup>e</sup>

agile innovation  
for polymers





## MILESTONES

1976

Founded in Bursa/Turkey with polymer distribution.

1998

Engineering plastics production started.

2002

- Moving to Bursa HQ
- R&D activities started
- Capacity: 8,000 tons/yr.

2007

Istanbul sales office.

2014

Epsan Dortmund/Germany.

2015

- Gemlik Freezone factory opened
- Capacity: 25,000 tons/yr.

2016

- Epsan Milan / Italy

2017

- Epsan Barcelona / Spain
- IoT 4.0 systems integrated.

2018

- Accredited R&D center\*

2019

- Capacity: 45,000 tons/yr.
- Epsan Lyon / France

2021

IATF Certification



2022

- Capacity: 55,000 tons/yr
- 5,000 m2 new warehouse in Freezone.

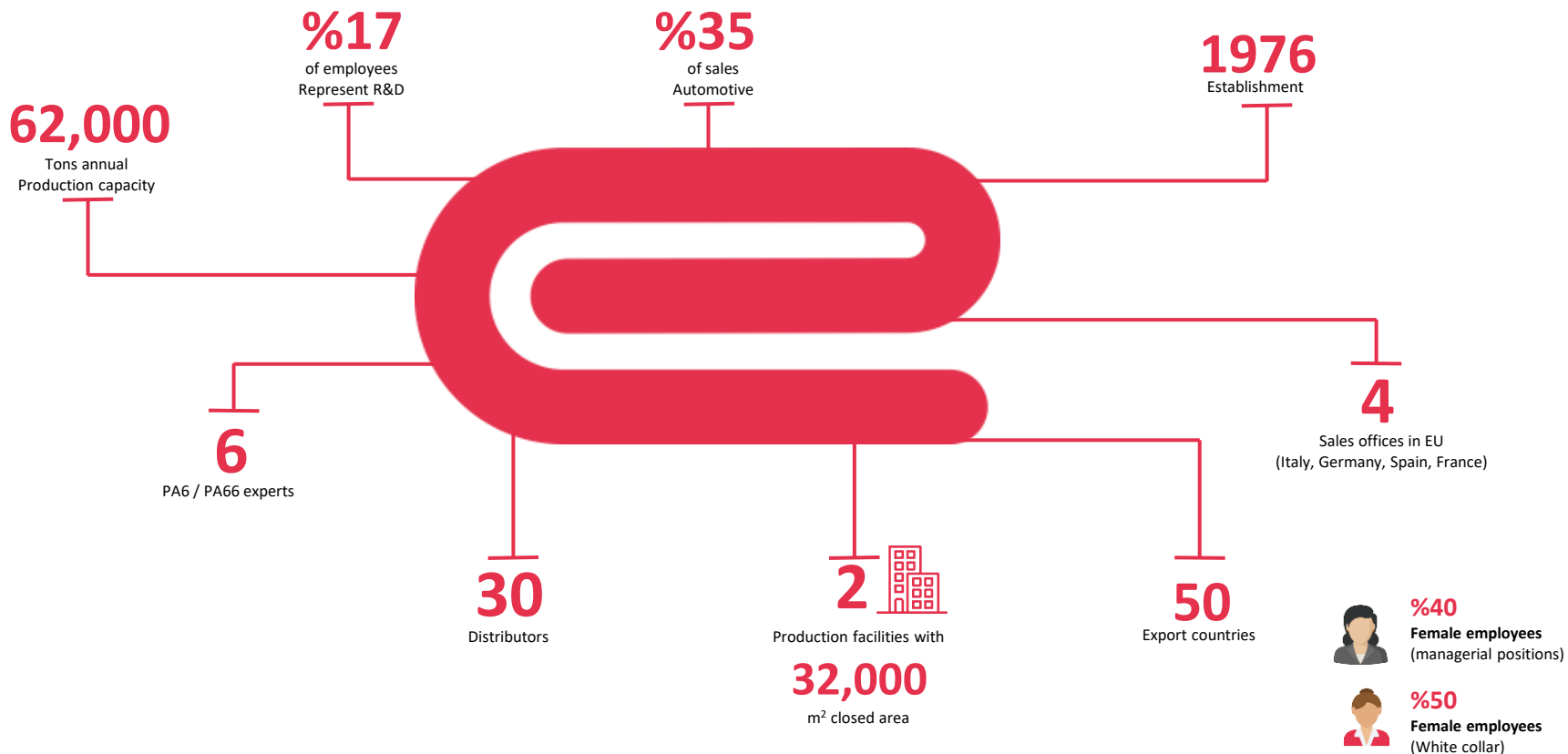
2023

- R&I Center Expanded
- Capacity: 62,000 tons/yr
- 3,000 m2 additional new warehouse in Freezone
- Solar Power Plant built



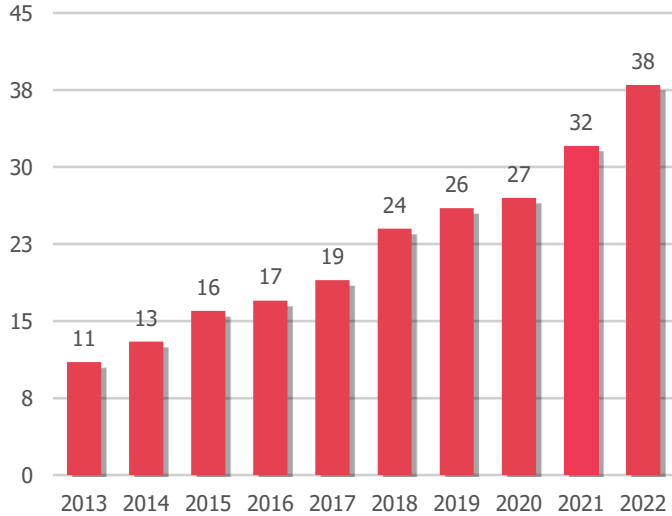


## EPSAN AT A GLANCE

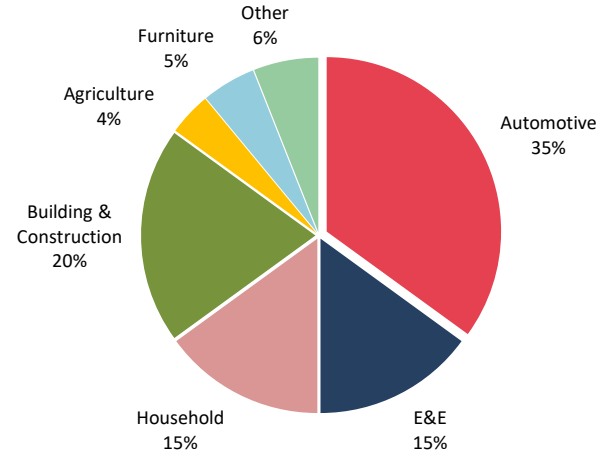


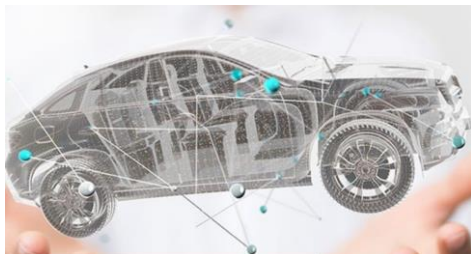


**Sales Volume (k tons)**



**Sales Breakdown**





### EPLAMID

- Eplamid is the tradename of Epsan's advanced PA compounds portfolio, which is innovated and tailor-made to serve the existing needs and future requirements of our key customers inline with the global trends and drivers.
- Various forms of Eplamid PA6, PA66 and PPA are used in industries like automotive, electric & electronics, appliances and many others through the globe.



### EPIMIX

- EPIMIX is the tradename for our polybutylene terephthalate (PBT), polyethylene terephthalate (PET) and all polymer blends of Epsan. These blends are the combination of various polymers, i.e. PA, ABS, ASA, PBT.
- EPIMIX offer high heat resistance, strength, rigidity and toughness as well as good resistance to chemicals, good electrical properties, low creep at high temperatures and low moisture absorption.



### EPLON +

- Recycled compounds produced from post-industrial fiber waste and polymerization waste of polyamide producers.
- Thermal and mechanical properties are similar to primary PA
- Industries: automotive, E&E and household appliances



### EPIMIX +

- Post consumer and post industrial recycled PET and PBT compounds that are used in various industries.



## PRODUCT GROUPS






### EPLAMID

- EPLAMID 6 PA 6
- EPLAMID 66 PA 6.6
- EPLAMID HT PPA

### EPIMIX

- EPIMIX PBT PBT
- EPIMIX PBT/PET PBT/PET
- EPIMIX PBT/ASA PBT/ASA
- EPIMIX ABS/PA ABS/PA
- EPIMIX PA/PP PA/PP
- EPIMIX+ PBT/R-PET 
- EPIMIX+ PBT\* 

### EPLON +

- EPLON+ 6 PA 6 
- EPLON+ 66 PA 6.6 
- EPLON+ HT PPA 





## BUSINESS PARTNERS



GRUPE RENAULT



DAIMLER

STELLANTIS



# SUSTAINABLE SOLUTIONS

ECO-FRIENDLY COMPOUNDS



## About our Sustainable Products



**EPLON<sup>+</sup>** is the trade name of high performance PA6- PA66 recycled compounds produced from post-industrial fiber waste and polymerization waste of polyamide producers.

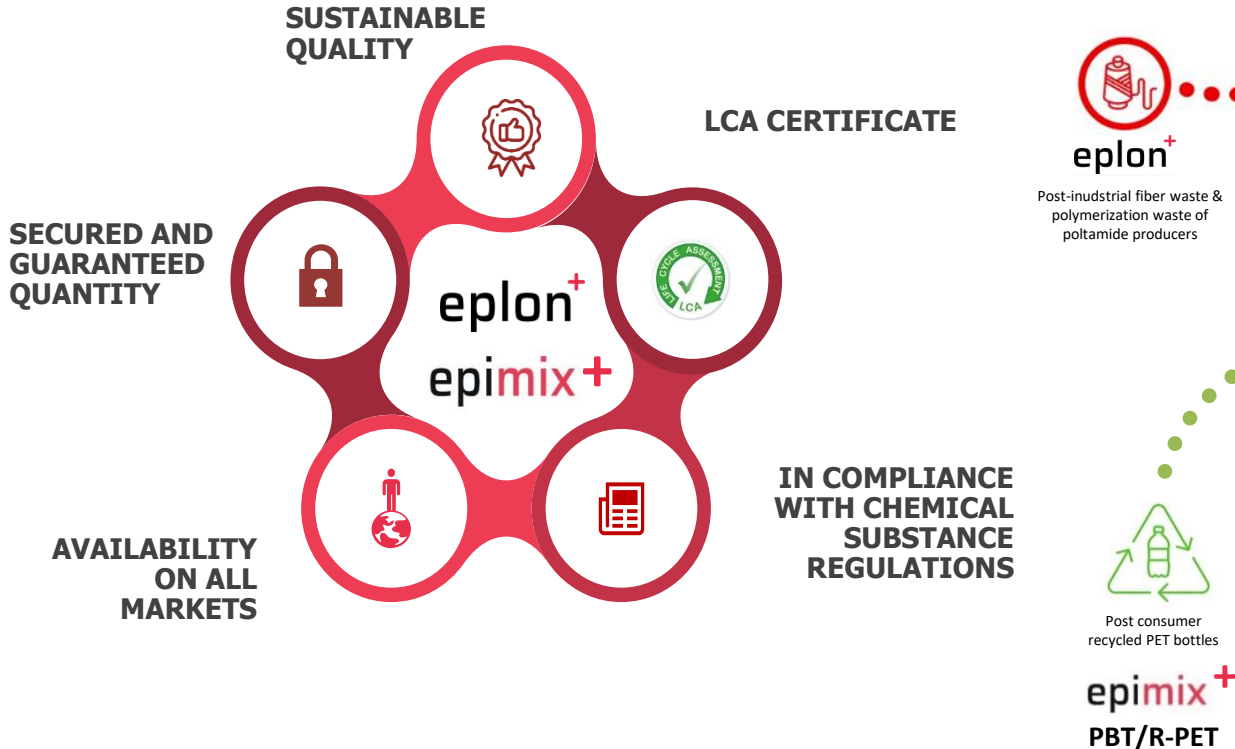
Thermal and mechanical properties are quite similar to primary PA compounds. The enhanced properties of EPLON<sup>+</sup> grades make it a good alternative in many areas such as automotive, E&E and household appliances where resource efficiency, low carbon impact and the circularity terms becoming a common requirements along with technical specifications.

**EPIMIX<sup>+</sup> PBT/R-PET** compounds are produced from post - consumer raw material and has similar properties with EPIMIX PBT/PET (original grade).

**EPIMIX<sup>+</sup> PBT post - consumer** is currently under development

Each product offers ecological and durability solutions while offering the highest quality standards. Our goal is to create a value by reducing the environmental footprint of plastics and leave a better future for the next generations.





Post-industrial fiber waste & polymerization waste of polyamide producers

**EPLON<sup>+</sup>** is the trade name of high performance PA6 and PA66 recycled compounds produced from post-industrial fiber waste and polymerization waste of polyamide producers.



Post consumer recycled PET bottles

**EPIMIX<sup>+</sup> PBT/R-PET** compounds are produced from post-consumer raw material.

**epimix<sup>+</sup>**  
**PBT/R-PET**

ENVIROMENTAL PROFILE LCA  
(LIFE CYCLE ASSESSMENT) REPORT







# EPLON+ 6 GFR 35

## Material Information:

Recompound polyamide 6, reinforced with 35% glass fiber, heat stabilized, lubricated for injection moulding. In the formulation of these materials, 50% of the polymer ratio is prime and 50% is recycled.



**Total Carbon Footprint**  
3.95 kg CO<sub>2</sub> eq

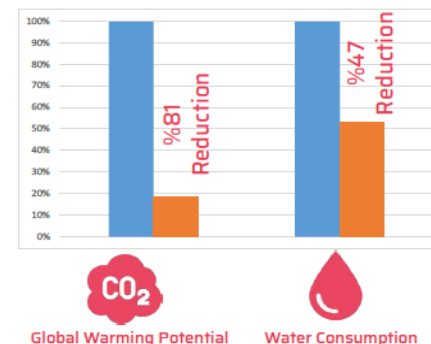


**Total Water Footprint**  
16.4 L

Environmental Impacts, 1 kg EPLON+ 6 GFR 35

| Impact Category   | Unit                   | Raw Material | Transport | Manufacturing | Packaging | Total |
|-------------------|------------------------|--------------|-----------|---------------|-----------|-------|
| GWP100 - fossil   | kg CO <sub>2</sub> -eq | 3.64         | 0.003     | 0.148         | 0.149     | 3.95  |
| GWP100 - biogenic | kg CO <sub>2</sub> -eq | 0.002        | 1.44E-6   | 363E-6        | 261E-6    | 0.003 |
| GWP100 - luluc    | kg CO <sub>2</sub> -eq | 581E-6       | 1.73E-6   | 1.08E-3       | 240E-6    | 0.002 |
| GWP100- total     | kg CO <sub>2</sub> -eq | 3.65         | 3.48E-3   | 0.150         | 0.150     | 3.95  |

Comparative Life Cycle Assessment of 'PRIMARY' resin base and high quality post industrial recycled resin base 'EPLON+' compounds





UPDATE..

## EPSAN LCA Database Growing

Epsan will renew its inhouse LCA database to be used for all our products.

With our own database, we will rebuild the system that allows us to calculate each material's enviromental footprint.



## Awaiting Products for LCA Certificate



### Epsan Product Name

EPIMIX PBT GX0 30



EPIMIX+ PBT/R-PET GX0 30

EPIMIX PBT GFR 30



EPIMIX+ PBT/R-PET GFR 30

EPLAMID 6 GX0 30

EPLAMID 66 GX0 30



EPLAMID 66 GX0 30 RP



EPLON+ 66 GX0 30 RP



EPLON+ 6 IMP BK Q2A804



EPLON+ 6 IMP BK Q2B804



EPLON+ 66 IMP BK Q2A504



EPLON+ 66 IMP BK Q2A804



EPLON+ 66 IMP BK Q2B804

# EPLON+ PRODUCTS FOR AUTOMOTIVE



**EXTERNAL MIRROR** ✓  
 EPIMIX+ PBT/R-PET 30/50  
 EPIMIX+ R-PBT 30/50  
 EPLON+ 66 GF50



**IPA STABILIZERS** ⌚  
 EPLON+ 6 GFR 35 BK



**HOOD OPENER PALLET** ✓  
 EPIMIX+ PBT/R-PET  
 EPIMIX+ R-PBT



**RADIATOR FAN** ✓  
 EPLON+6 GF30

**BACK WINDOW WIPERS** ⌚  
 EPIMIX+ PBT/R-PET  
 EPIMIX+ R-PBT



**RADIATOR SHROUD** ⌚  
 EPLON+6 GF30

**WHEEL COVER** ⌚  
 EPLON+ 66 MFI



**OIL PAN** ⌚  
 EPLON+6 GF35/40



**CYLINDER HEAD COVER** ⌚  
 EPLON+6 GF40

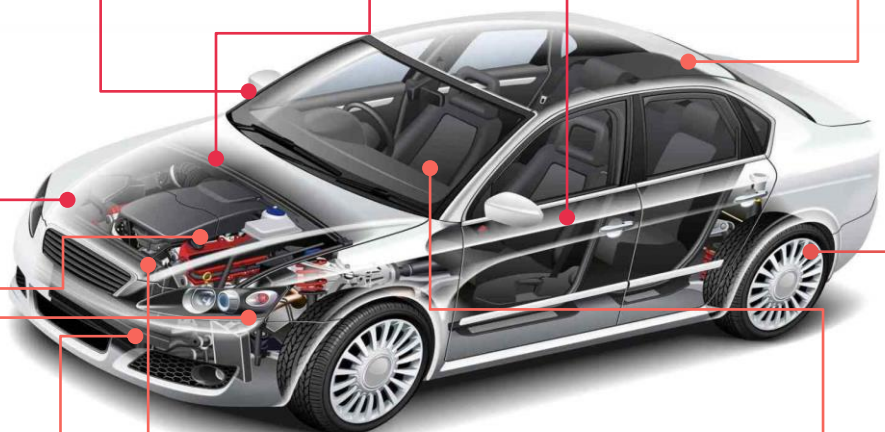


**COOLING SYSTEM** ⌚  
 EPLON+66 GFH 30

**CONNECTION CLIP** ⌚  
 EPLON+ 66 IMP BK

**SEAT PLASTICS** ⌚  
 EPLON+6 GF30

**DOOR HANDLE** ✓  
 EPLON+6 GFR 30  
 EPIMIX+ PBT/R-PET 30  
 EPIMIX+ R-PBT 30







## ONGOING AUTOMOTIVE PROJECTS







| Chemical Designation | Epsan Product Name  |
|----------------------|---------------------|
| PA6 GF15             | EPLON+ 6 GFR 15 BK  |
| PA6 GF30             | EPLON+ 6 GFR 30 BK  |
| PA6 GF50             | EPLON+ 6 GFR 50 BK  |
| PA6 GF15 + IM        | EPLON+ 6 GFI 15 BK  |
| PA6 GF30 + IM        | EPLON+ 6 GFI 30 BK  |
| PA6 GF50 + IM        | EPLON+ 6 GFI 50 BK  |
| PA66 GF15            | EPLON+ 66 GFR 15 BK |
| PA66 GF30            | EPLON+ 66 GFR 30 BK |
| PA66 GF50            | EPLON+ 66 GFR 50 BK |
| PA6 GF30 Surface     | EPLON+ SKY 6 GFR 30 |



## ONGOING AUTOMOTIVE PROJECTS



| Chemical Designation  | Epsan Product Name          |
|---|-----------------------------|
|  PA6 GF30        | EPLON+ 6 GFR 30 BK          |
|  PA6 GF30 + UV   | EPLON+ 6 GFU 30 UVH BK      |
|  PA66 GF30       | EPLON+ 66 GFR 30 BK         |
|  PA66 GF30 Hydro | EPLON+ 66 GFH 30 HS BK      |
|  PA6 GF30 FR V0  | EPLON+ 6 GX0 30 BK          |
|  PA6 FR V0       | EPLON+ 6 FX0 BK             |
|  PA6 GF30 + UV   | EPLON+ 6 GFU 30 UVH BK      |
|  PA6 + IM + UV   | EPLON+ 6 IMP UVH BK         |
|  PBT/PET         | EPIMIX+ PBT-RPET FX0 NC     |
|  PBT/PET GF30    | EPIMIX+ PBT/R-PET GX0 30 NC |





# CIRCULAR ECONOMY & SUSTAINABILITY

- Renewable energy: Solar Energy Power System corresponds to 15% of energy need

## EPLON+

- Up to 78% less CO2
- Up to 97% less water
- LCA certificate



## POST-INDUSTRIAL MATERIAL USE

Collection of textile waste material to be used in recycle process.

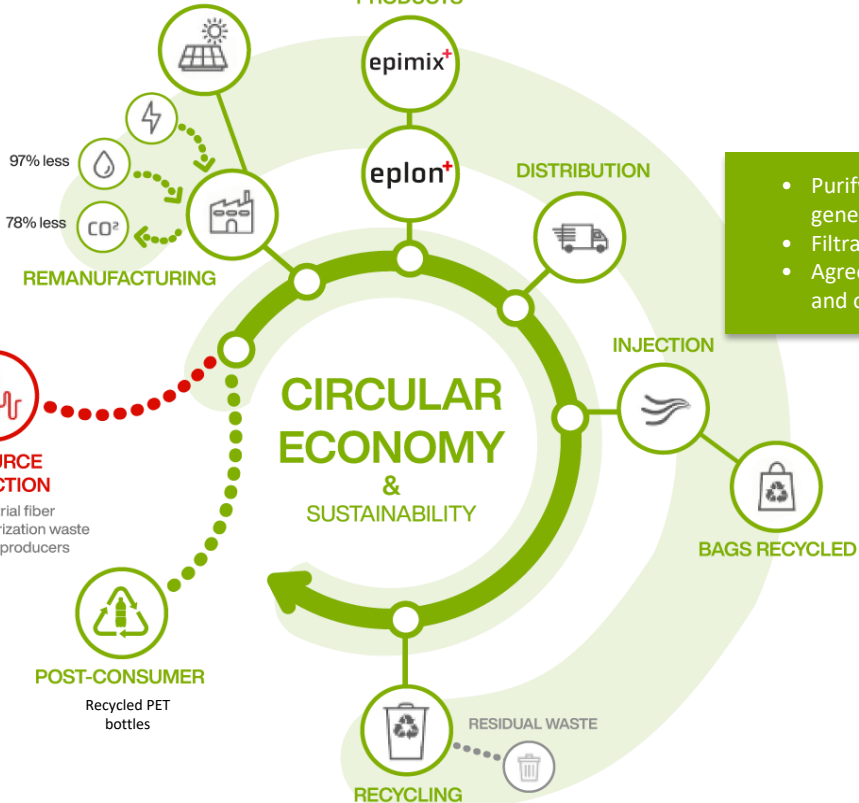
## POST-CONSUMER

Collection of recycled PET bottles

### RENEWABLE ENERGY SOURCES

In-house solar Power system corresponds to 15% of energy need

### ECO-FRIENDLY PRODUCTS



## EPIMIX+ PBT/R-PET

- New recycled PBT/R-PET

- Purifying system: Less gas and liquid waste generation during the production
- Filtration system: Lower CO2 emission
- Agreed with recycle companies for our bags and other waste

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