

Sustainability from the Lens of Converters

Rainer Sattel
ABC Blow Moulding-Conference
Wheeling, IL - October 7, 2026



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Agenda

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Agenda

AST - Company Profile / Introduction

Sustainability Approaches / Goals & Visions

Mechanical Recycling

Re-Use / Reconditioning

Summary / Outlook

Our Locations



Overview

Family owned
company



more than
45 years
of experience



Processing ca.
100.000 t
(220 M lbs)

Comprehensive
product portfolio of
plastic packaging from

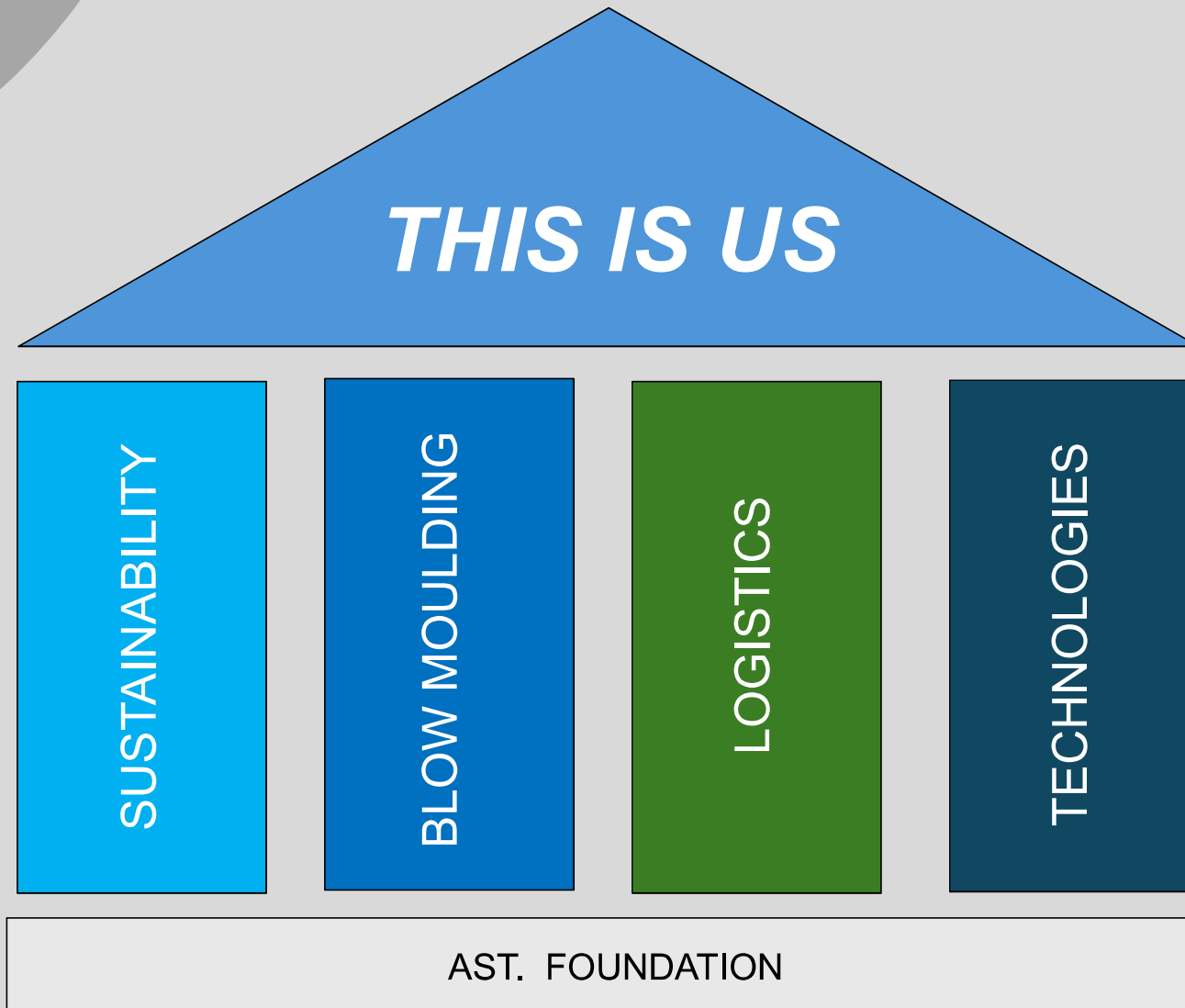
5 ml to 1000 litres
(0.001 – 275 gal)



700
employees

plastic
Integrated
**recycling and
packaging
collection system**

Overview





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Sustainability Approaches

Sustainability – Why ?

- The US and Europe take fundamentally different approaches to plastic waste management

- US relies heavily on inexpensive landfilling.
- Plastic recycling rate < 10%
- Characterized by cheap landfill costs and decentralized state-by-state management.
- The industry faces economic challenges as the cost to collect and process plastic often exceeds the value of the plastic resin.
- Lacks unified nationwide sorting infrastructure, relying heavily on single-stream recycling that suffers from high contamination rates.

Sustainability is primarily driven by legislation and financial considerations

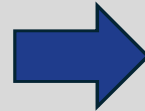
- Europe strictly penalizes landfilling.
- Use aggressive government mandates to build a massive, self-sufficient mechanical recycling infrastructure.
- Relies on legislation to make recycling economically viable.
- Mandates strict recycling content, such as requiring 25% recycled plastic in various applications.
- Emphasizes multi-stream sorting at the household level. The EU has heavily invested in its mechanical recycling infrastructure.

Sustainability Approaches

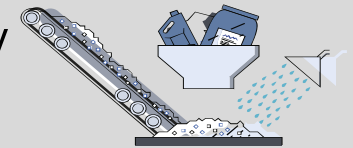


➤ Mechanical Recycling

- 8 production sites
- Total Capacity: 15000 mt/a (33 M lbs/a)

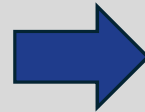


- ❖ Circular Economy
- ❖ Recycling-Rate



➤ Chemical Recycling

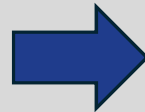
- Pilot projects
- Own pyrolysis Oil



- ❖ „Ready for Future“
 - ❖ Food applications / approvals
- Certificates from raw material supplier ➡



➤ HDPE made of non-fossil sources

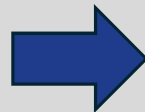


- ❖ CO₂ - Savings
 - ❖ Food applications / approvals
- Certificates from raw material supplier ➡



➤ Re-Use

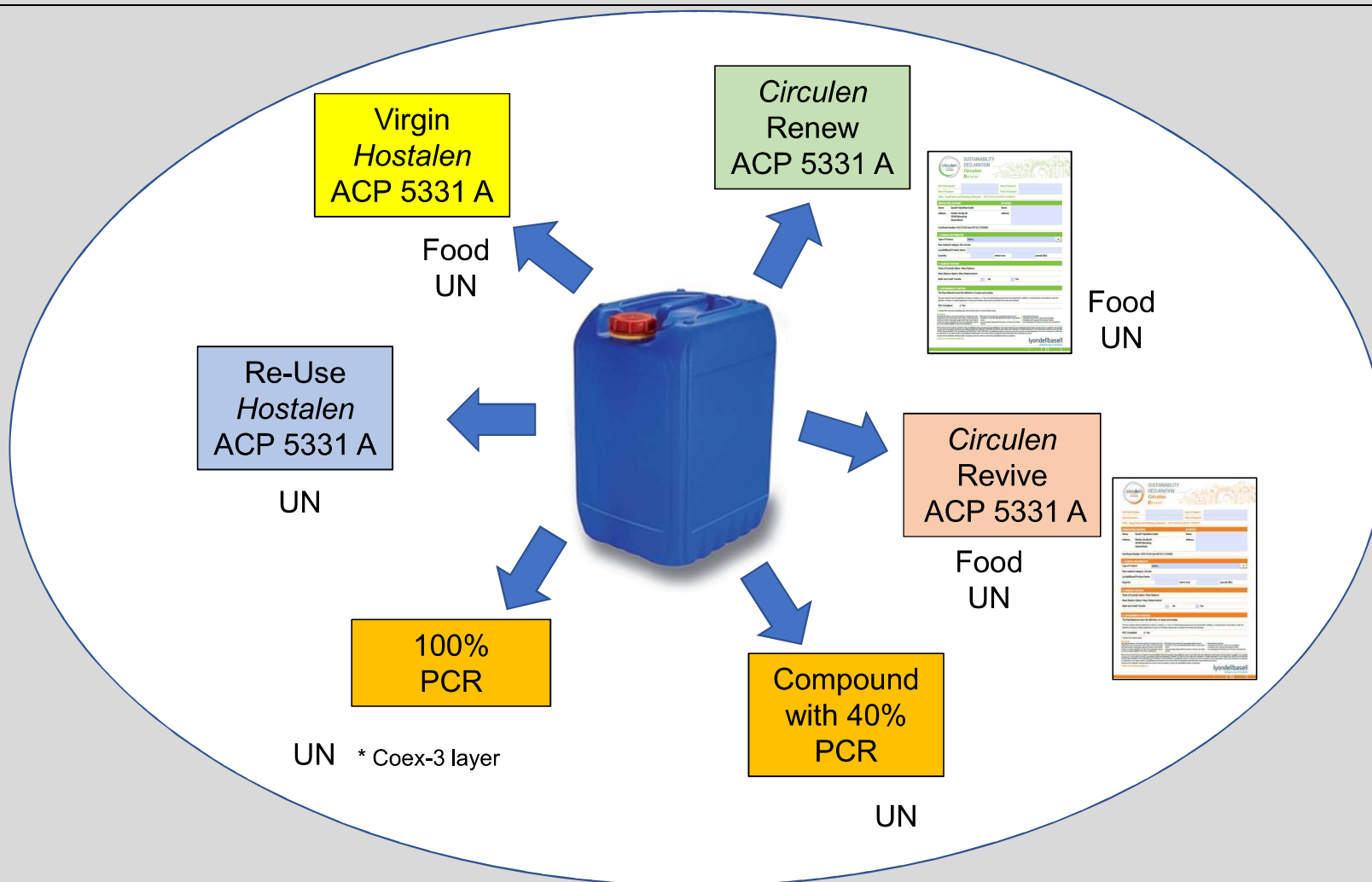
- Take-back and Reconditioning of IBC, Drums and Jerry Cans (!)



Circular PACXaging Solutions



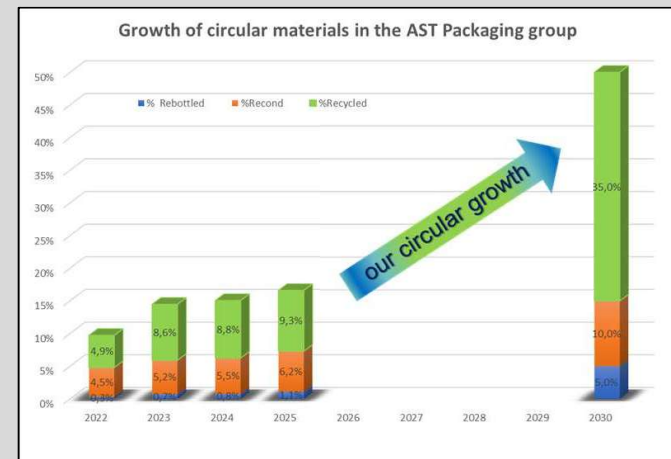
Sustainability Approaches



Goals & Visions

Our Goals

- Improving the Corporate Carbon Footprint by continually reducing our energy consumption and improving energy efficiency
- All of our production sites certified according to ISO 50001
- RecyClass and ISCC Plus-Certification
- Circular material rate AST Packaging group:
Currently: 18%
Target 2030: 50%



Our Visions

- We want to further advance our commitment to sustainable practices and eco-friendly solutions to create environmentally conscious packaging options, reduce waste and promote circular economy initiatives.



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Mechanical Recycling - Processing Technologies Scheme

Collect / Sort



Empty / Rinse Residue

Cleaned
container
returned to the
customer

Processing

Crush and regranulate



Dry Shredder



Reggranulation / Filtration



Washing & Drying
(w/o granulation)



Valuable Material

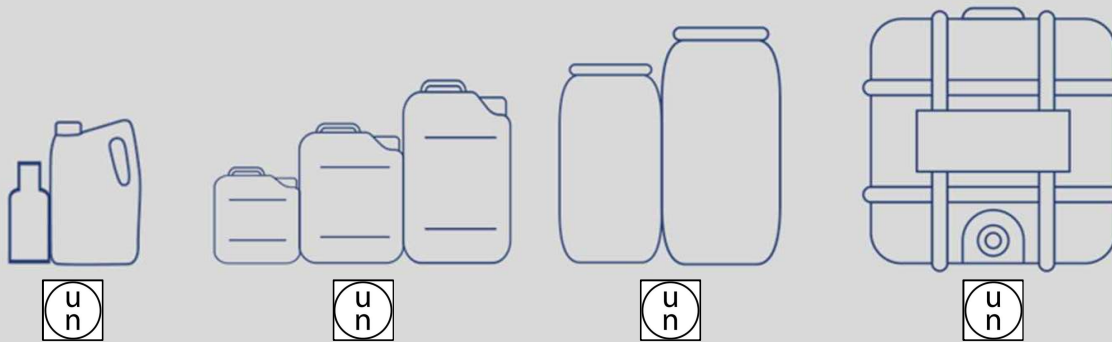
Plastic Granule

Plastic Granule

Plastic Flakes

Mechanical Recycling – Application Focus of our PCR's

- Clear focus on the production of virgin-like PCR's for use in industrial packaging.
- Furthermore, the production of PCR's and PCR-Compounds for use in dangerous goods packaging (UN approved)



Industrial Packaging Market Overview



EU – Total Market (2025) : ~ 677 kt (~1500 M lbs)

IBC



OTD



LRD



JC



+

	IBC	OTD	LRD	JC
Market share [%]	36	27		37
Market share [kt]	244	54	129	250

~ 81% (~ 547 kt) UN-approved applications / ~ 71% (~ 478 kt) = „UN Non-Food“

Mechanical Recycling

What's the right PCR for dangerous goods packaging ?



Mechanical Recycling / ISO 16103

PCRs for dangerous goods packaging

- Definitions according to ISO 16103



3. Terms and definition

3.1 Recycled plastic material

- Material recovered from **used industrial packagings** that has been cleaned and prepared for processing into new packagings

3.2 Batch of recycled plastics material

- Defined quantity, maximum 25 t, of homogeneous material with known parameters (**melt flow rate, density and tensile stress at yield**).

5. Requirements

5.1.1 Collection

- The collection shall be restricted to **industrial packagings**, e.g. drums, jerrycans, large packagings and intermediate bulk containers (IBCs)

Mechanical Recycling / ISO 16103

Lab analyses according to ISO 16103

- MFI-Measurement (ISO 1133)
- Density Measurement (ISO 1183-1)
- Tensile Measurement (ISO 527-1 / 527-2)
to determine the yield stress

MFI-Measurement



inhouse 

Density Measurement

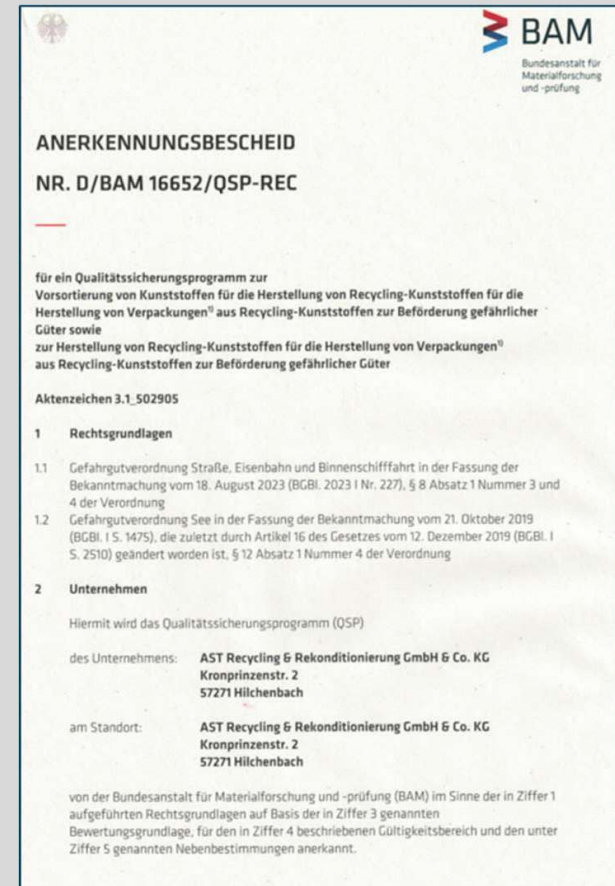


inhouse 

Tensile Measurement



inhouse 



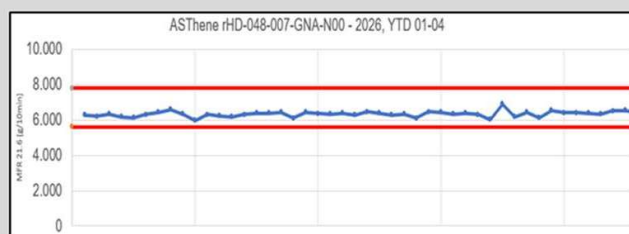
Mechanical Recycling / AST – PCR-Portfolio



AST – PCR-Portfolio „ASThene“

- Comprehensive Portfolio of own PCRs (Brandname „ASThene“) and PCR-Compounds from Meltindex (HLMI) 2 - 30 g/10 min and Densities from 0.945 – 0.954 g/cm³.
- Technical Data sheets for each ASThene-PCR

ASThene rHD-048-007-GNA-N00 - Quality Control



MFR specification range: 5.6 - 7.8 g/10 min
YTD, 01-04,2026

Technical Data Sheet

AST. Recycling Reconditioning

Kronprinzenstraße 2 | 57271 Hilschenbach-Lützel, Germany

ASThene rHD-048-007-GNA-N00

Product description: ASthene is a circular HDPE grade supplied in pellet form for blow moulding and extrusion applications.

Sustainability: ASthene contains at least 95% of post-consumer material from pre-sorted plastic packaging waste.

Filtration level is between 74 and 120 µm.

This product is not intended for highly regulated applications including food contact, potable water contact, medical and pharmaceutical applications.

Typical Properties	Value	Unit	Standard
Physical			
Density (23°C)	0.947-0.949	g/cm³	ISO 1183
Melt Flow Index (190 °C / 2,16 kg)	N/A	g/10 min	ISO 1133
(190 °C / 5 kg)	N/A	g/10 min	ISO 1133
(190 °C / 21.6 kg)	5.6-7.8	g/10 min	ISO 1333
Moisture content	< 0,2	wt%	internal method
PP-content	< 1	wt%	internal method
Mechanical (all at 23 °C)			
Tensile modulus	800-1000	MPa	ISO 527
Impact Strength, Charpy	N/A	kJ/m²	ISO 179
Tensile Stress at Yield	20-30	MPa	ISO 527
Tensile Strain at Yield	8-12	%	ISO 527
Flexural modulus	N/A	MPa	ISO 178
Additional information			
Source of Polymer	PCR		-
Deodorized	-		-
Color	Natural		-
Appearance pellets:	diameter	3,5-4	mm
	thickness	1-3	mm
			internal method

Based on current knowledge, this product does not contain any substances from the SVHC candidate list (as of November 2025) in a concentration exceeding 0.1 percent by weight (w/w).

Processing:

Recommended melt temperature range for blow moulding from 180°C-210°C

Disclaimer

All properties are current, typical data of stated product. All statements, data and information given herein are believed to be accurate and reliable but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied.

CIPACXS

date of issue: 09.02.2026

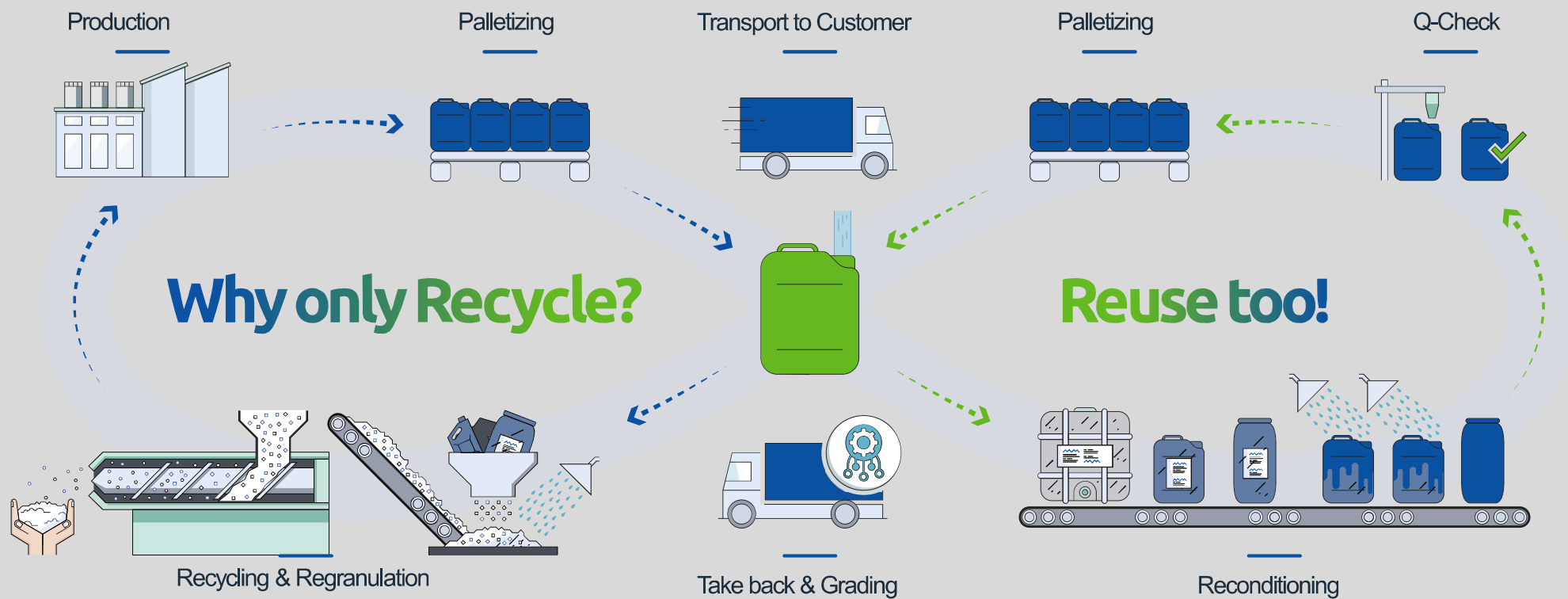


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Re-Use / Reconditioning

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CIPACXS®
POWERED BY AST.

“Sustainability from the Lens of Producers” – ABC Blow Molding Conference, Wheeling, IL – October 7, 2026

Video „Re-Use of JCs“, Hengelo (NL)



“Sustainability approaches from an Industrial Packaging producer’ perspective” – BM Conference, Brussels (B) - December 10th, 2024



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Summary / Outlook

- As shown, there are a many ways to advance the HDPE circular economy. From our point of view, it is important to exploit all available approaches to improving sustainability - also and especially to achieve our recycling goals.
- The use of PCR for dangerous packaging is possible and sensible, but associated with higher costs.
- It will be difficult to meet the specific recycling quotes using mechanical recycling alone, especially in the industrial packaging market.
- We as AST are continuously working on expanding our activities in the area of recycling.
- With our single-grade PCR types (ASThene), we are taking PCR Quality to the next level and also see potential applications in the automotive sector.

„Sustainability from the Lens of Producers”



Thank you for your attention !

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