CHEMICAL RECYCLING & THE ROLE OF CERTIFICATION

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Plastics Division Members

Industry Commitments

LyondellBasell pledges to produce two million metric tons of recycled and renewable plastics by 2030

Eastman commits to recycle 500 million pounds of plastic waste annually via molecular recycling by 2030

Targets 250 million pounds by 2025

SHELL COMMITS TO USING ONE MILLION METRIC TONS OF PLASTIC WASTE AS FEEDSTOCK ANNUALLY BY 2025

AMSTY COMMITS TO 25% RECYCLED POLYSTYRENE BY 2030

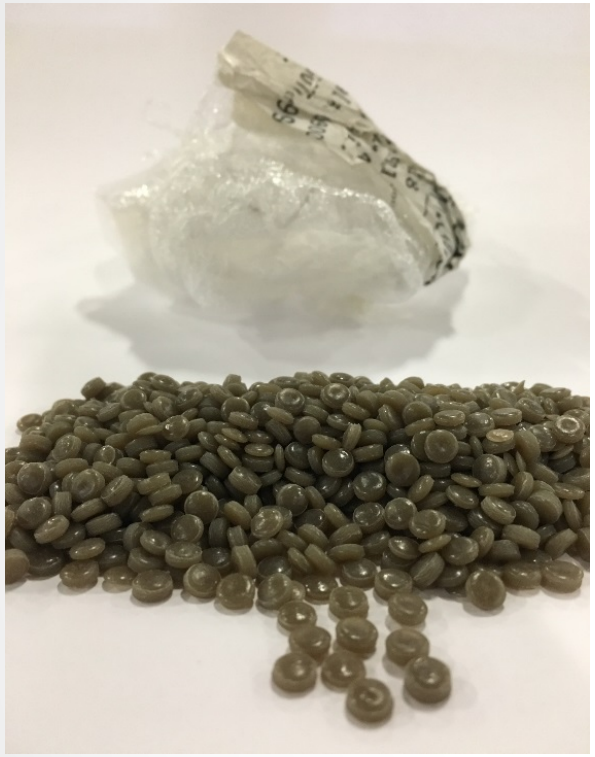
CPChem touts PE chemical recycling success, targets billion pounds of production by 2030

Growing Commitment for Recycled Plastics

- Brand owners committing to use more recycled plastics
- States and federal government increasingly mandating it

Source: [New Plastics Economy Report, Ellen MacArthur Foundation]

Mechanical Recycling Has Limitations



- Back of store material
- Significant paper label contamination
- Some colored bags

- Front of store material (customer drop off)
- Some paper, pouches, mixed material contamination
- Colored bags

- Back of store material
- Limited paper label contamination
- Red printed large bags

NEMO
NEW END MARKET OPPORTUNITIES

Supporting a Circular Economy via Chemical Recycling

Unilever's Sustainability Goal: 25% of plastic packaging comes from post-consumer recycled plastics by 2025

- Magnum Ice Cream Tub
- Tracking Method: Mass balance
- ISCC PLUS certified
- Plastic Energy/SABIC in supply chain

ISCC
International Sustainability & Carbon Certification

Advances in Recycled Plastic Partnerships

Tupperware®

nalgene®

MADE IN USA

MAGNUM

ice cream

MAGNUM USES RECYCLED PLASTIC

PHILADELPHIA

SINCE 1872

bradburys

inspired by cheese

Importance of Certification

- Promotes trust, standardization, transparency
- Provides independent third-party verification for credible, verified claims
- Tracks recycled and renewable feedstock through commingling manufacturing process

Ecosystem of Certification Systems

Offer Certifications

Verification Services for Other Certifications

Endorses Third Party Companies to Conduct Certifications

Global Alignment

- Global standard on mass balance in development
  - Via the International Standards Organization (ISO)
  - ACC members represented U.S. delegation in ISO
- Issues needing member alignment
  - Mass balance credit calculation
  - Physical traceability
  - Chemical connectivity
  - Non-proportional allocation / free attribution
- Desired outcome: standardize terminology and industry-accepted approached for recycled plastics standards

U.S. Mass Balance Principles

- Goal

  To create advocacy principles for inclusion in mass balance standards

- Audiences

  U.S. Congress and government agencies, ISO, consumer brands, ACC internal sustainability audiences

- Work Group

  Americas Styrenics, Chevron Phillips Chemical, Dow Chemical, Eastman Chemical, ExxonMobil, SABIC, Shell

Regulatory Landscape for Recycled Content

United States

Limited statutory or regulatory drivers for plastics recycling

- U.S. FDA approves on case-by-case basis for PCR food contact use
- FTC Green Guides silent on chemical recycling marketing claims; up for review in 2022
- Chemical recycling and mass balance not recognized in EPA draft National Recycling Strategy
- New legislation could stimulate domestic investment in recycled plastics

European Union

Commitment to develop method for calculating and verifying recycled content by 1/1/2022

- Single Use Plastics Directive (EU) 2019/904
- Emerging European plastic taxes will increase incentives for recycled plastics
- Amendment to food-contact recycled plastics regulation (EC No 282/2008) developed in 2021

U.S. Federal Legislation In Progress

Develop a national framework to eliminate plastic waste in the environment.

Create a national system to grow the circular economy for plastics.

Help EPA reach its 2030 goal by improving how 9,000 recycling jurisdictions recycle.

21st Century Regulatory Framework

Establish certainty to invest in recycling infrastructure for the long-term.

Eliminate confusion and ensure regulatory consistency to drive business decisions.

Create the environment to drive future consequential policy decisions over the long-term.

Questions?

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