

# The Petrochemical Industry and Plastics Circularity

LET'S GO CHANGE  
THE WORLD

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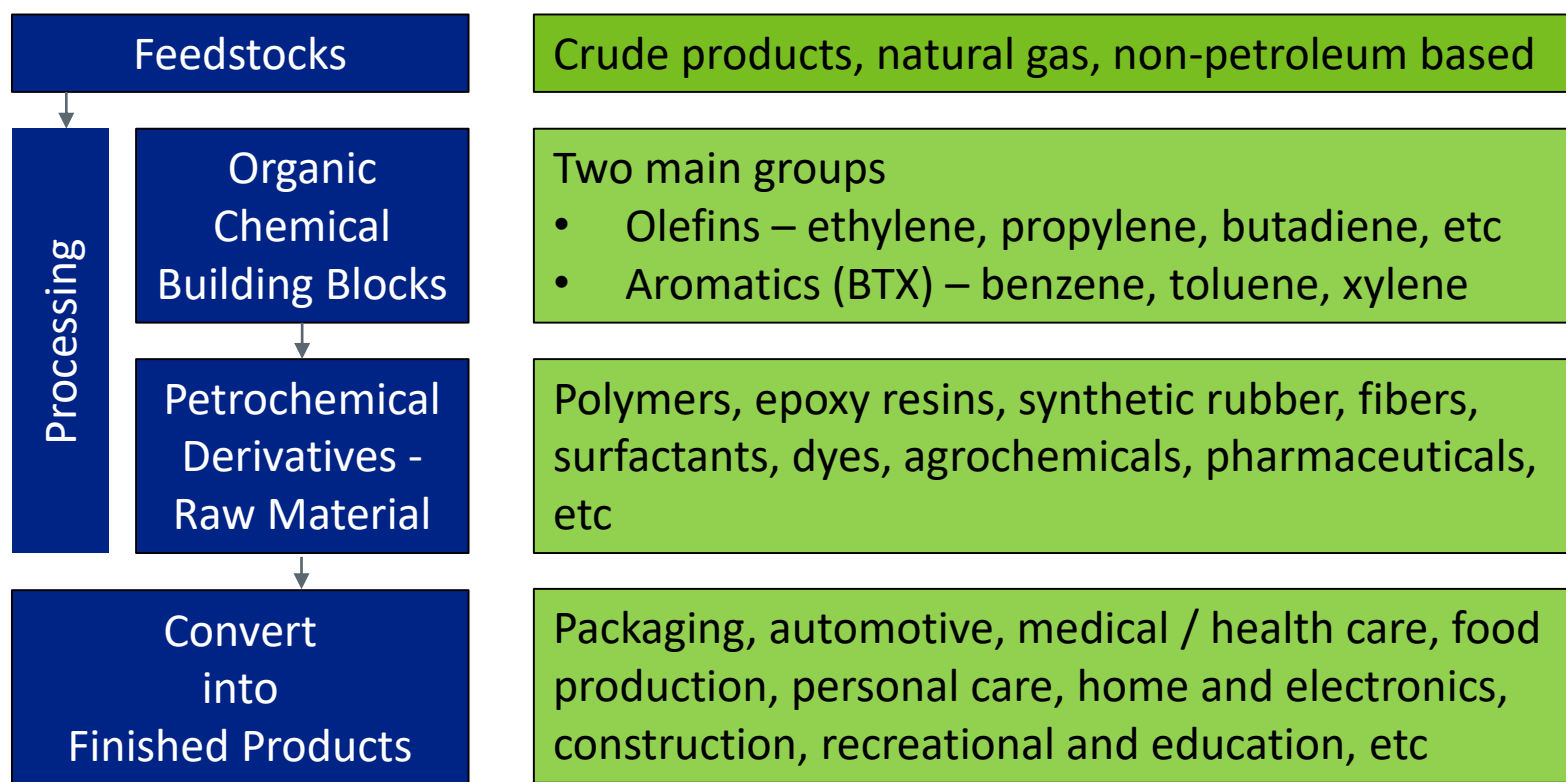


Performance by design.  
Caring by choice.™



# Introduction to Petrochemical Industry

- Is an industry that uses feedstocks from the oil refinery (primarily), process it to produce organic chemicals, as raw material for many valuable end-use products

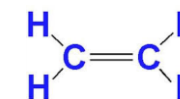


Example

Ethylene chain – Polymer



Natural Gas



Ethylene (C<sub>2</sub>=)



Polymer - HDPE



# Chevron Phillips Chemical Company



Chevron Phillips Chemical is a joint venture between Chevron U.S.A. Inc. and Phillips 66 Company, founded on 1 July 2000

[www.cpchem.com](http://www.cpchem.com)



## Products That Perform **People Who Care**

Our solutions are essential, so they're designed to the highest standards. Because we care, they're designed to improve lives around the world.

### Solutions



Aromatics



Drilling  
Specialties



Normal Alpha  
Olefins



Olefins



Performance Pipe



Polyalphaolefins



Polyethylene



Specialty  
Chemicals

### Industries



Automotive



Energy &  
Chemical



Food &  
Agriculture



Home &  
Electronics



Medical &  
Pharmaceutical



Personal Care



Recreational



Industrial

# Sustainability @ CPChem



<https://www.cpchem.com/sustainability>







The Plastic  
Waste  
Challenge

**We Strongly Agree –  
Plastics Does Not  
Belong In Our  
Environment. Period.**





## Plastic - An Integral Part of Modern Society

Plastics significantly benefit modern society by:

- Protecting the food we eat
- Reducing fuel consumption, and
- Ensuring hygienic medical care is available when needed worldwide.

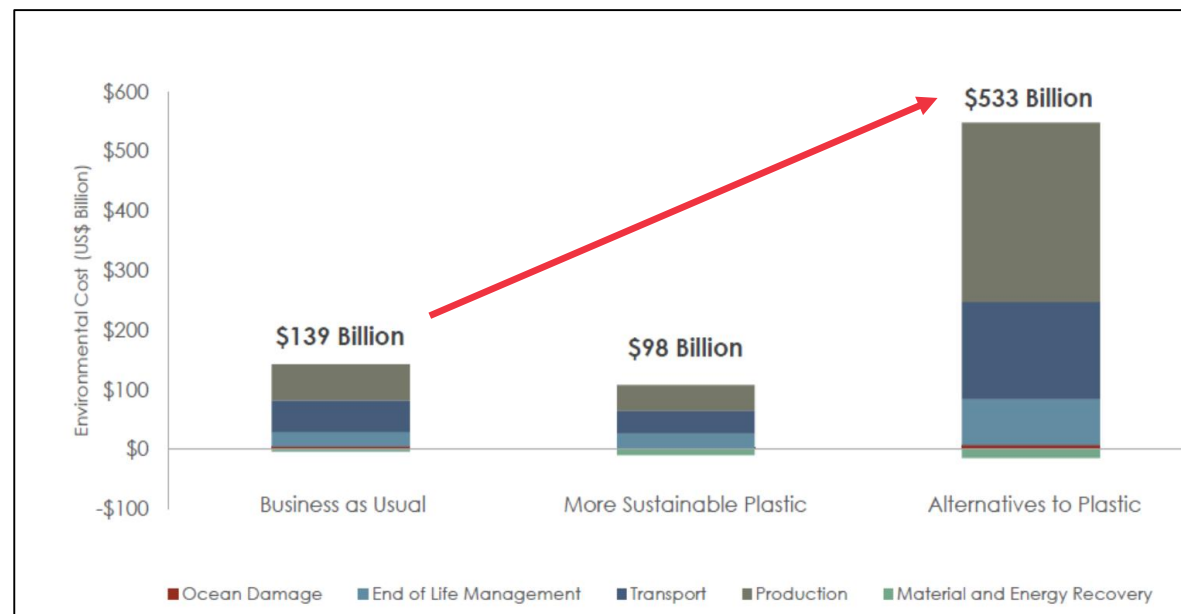


# Plastic – A Sustainable Material

.... Lighter, more energy efficient, and produce less greenhouse gas



Replacing plastics with other materials would require the use of 57% more energy and result in a 61% increase in GHG emissions.



Source: Trucost Study, 2016



# CPChem's Belief and Commitment

- **Plastic should not end up in our environment.**

We advocate for the proper disposal and recycling, reuse and repurposing of all plastics

- **Our company and industry must be problem solvers.**

Our vision is for every piece of post-use plastic to be recycled, reused or repurposed.



## Alliance to End Plastic Waste

Joined companies across the plastics value chain pledging more than \$1.5 billion to keep plastic waste out of the environment.



## Operation Clean Sweep® Blue

Deepened commitment to plastic pellet management practices across U.S. and similar programs in Asia and Europe.



## Circulate Capital Ocean Fund

Contributed \$15 million to 1<sup>st</sup> investment fund dedicated to eliminating plastic waste in South and Southeast Asia.



## Plastics & You Toolkit

Produced and distributed educational materials to encourage discussions about the value of plastics and recycling.



## Industry Goals

Worked toward industry goals of achieving 100% re-use, recycle or recovery of plastic packaging by 2040.



## Community Enrichment

Supported our communities through litter clean-up events, volunteerism, financial contributions and more.

# Brand Owner Commitment

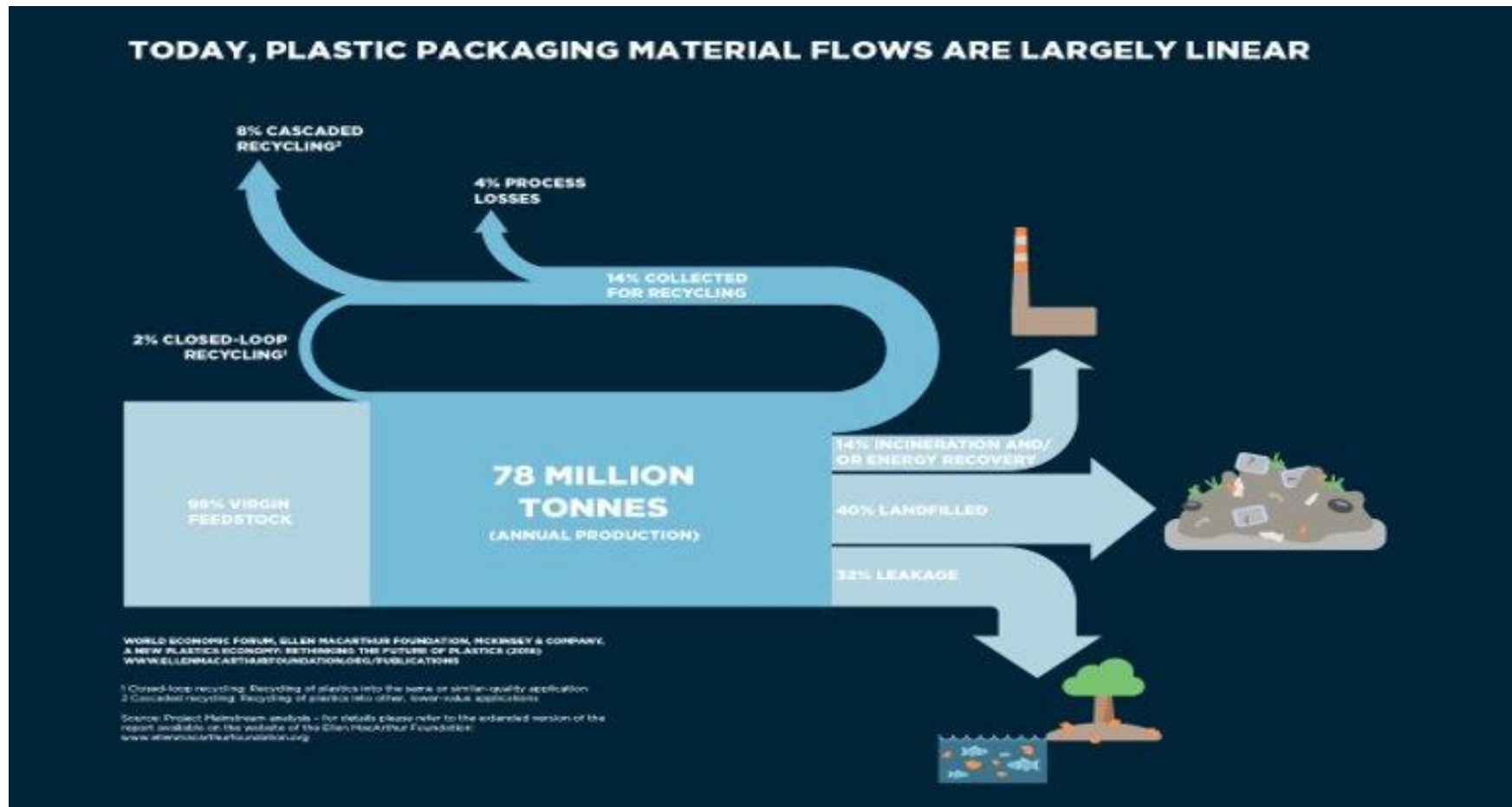


# Advancing Plastics Circularity



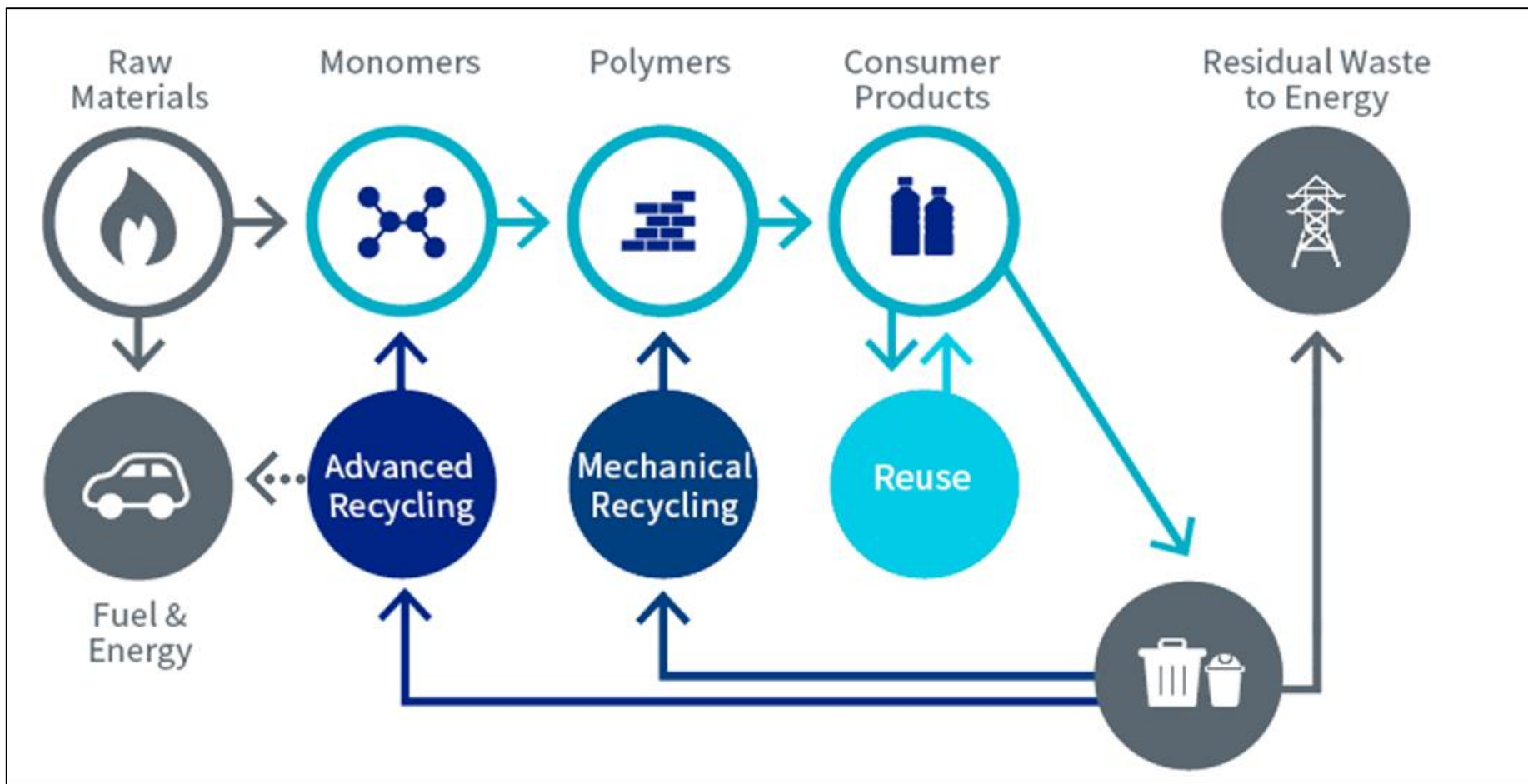


# Largely a Linear Economy Today



Source: Ellen Macarthur Foundation

# Advancing Plastics Circularity – Closing the Loop



# What is Advanced Recycling ?



Source : Chevron Phillips Chemical (<https://vimeo.com/465979058>)



# The Process of Advanced Plastic Recycling Explained



Source : Chevron Phillips Chemical

# CPChem Marlex® Anew™ Circular Polyethylene



10/08/2020

**Chevron Phillips Chemical successfully completes first U.S. commercial scale production of circular polyethylene from recycled mixed-waste plastics**

<https://www.cpchem.com/AdvancedRecycling>

*"We are exceptionally proud to be the first company to announce production of a circular polyethylene on this scale in the U.S.,"*

*"The successful production run marks a huge step for CPChem on our path to being a world leader in producing circular polymers."*

*This development is an important milestone for us as we further our commitment to proactively help the world find sustainable solutions, including the elimination of plastic waste in the environment."*

*- Jim Becker, Vice President of Polymers and Sustainability*



- Difficult to recycle waste plastics to feedstock
- Certification through internationally recognized ISCC\*
- Fills unmet demand for food grade recycled plastics
  - Prime material with predictable processability
  - Regulatory compliance
  - No taste, odor or color issues typical of recycled plastics

\* ISCC – International Sustainability & Carbon Certification

# Questions?

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