Seek Together™

Circularity and Net zero

Perspective from Materials Producer on Key Policy Enablers for Circularity towards Net Zero north star

PATH2ZERO

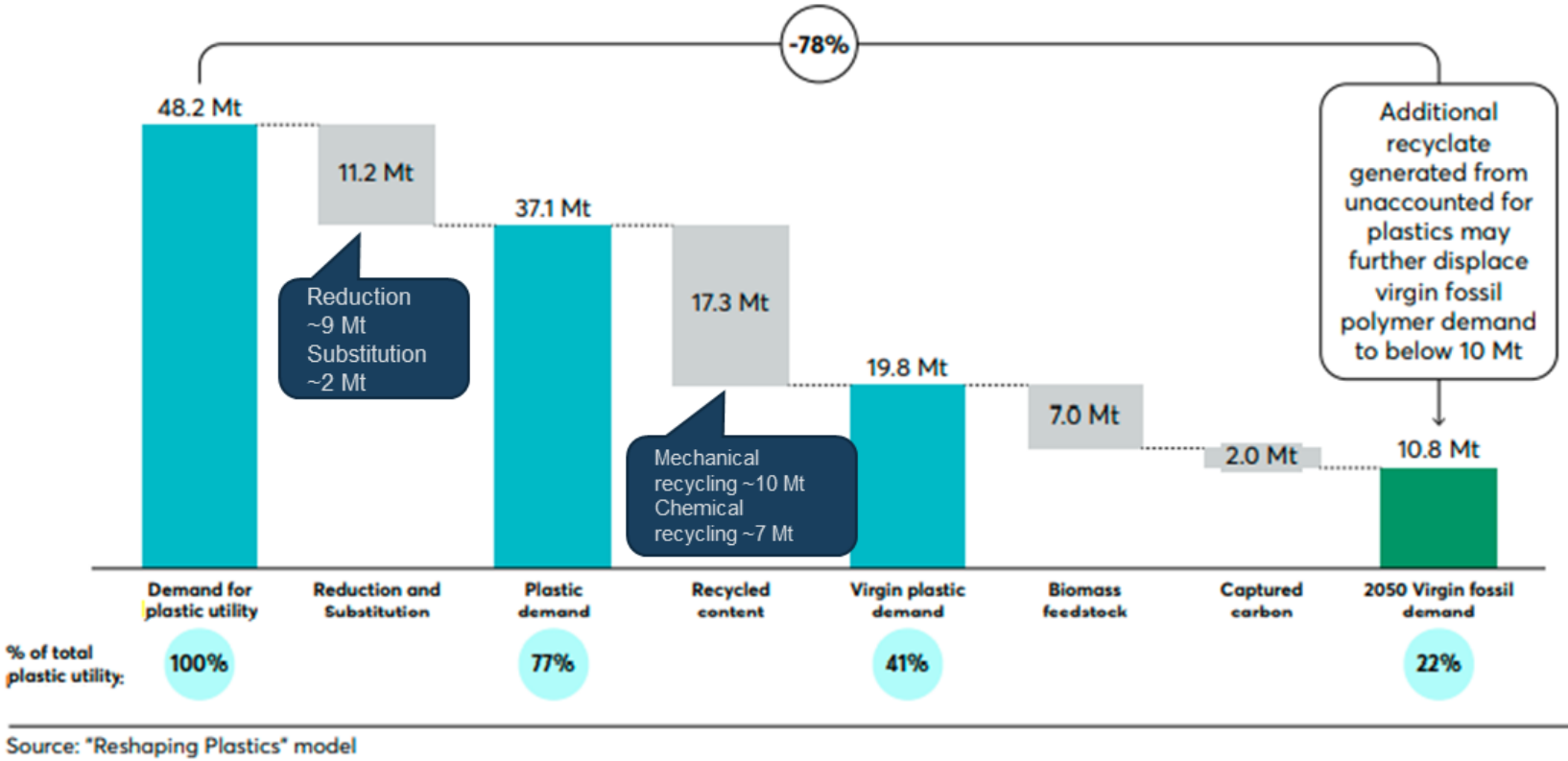
DOW GROWTH & NET-ZERO TRANSFORMATION


Sustainable Carbon Cycles
Circularity
Climate protection

Reshaping Plastics Report:
Key Predictions in a Net Zero 2050 Scenario

12MT of virgin fossil remain in the system in 2050 in the Net Zero Systems Change Scenario – to what extent should a complete disengagement be considered?

By 2050, 78% of plastic utility is supplied by alternatives to fossil fuel in the Net Zero Systems Change Scenario



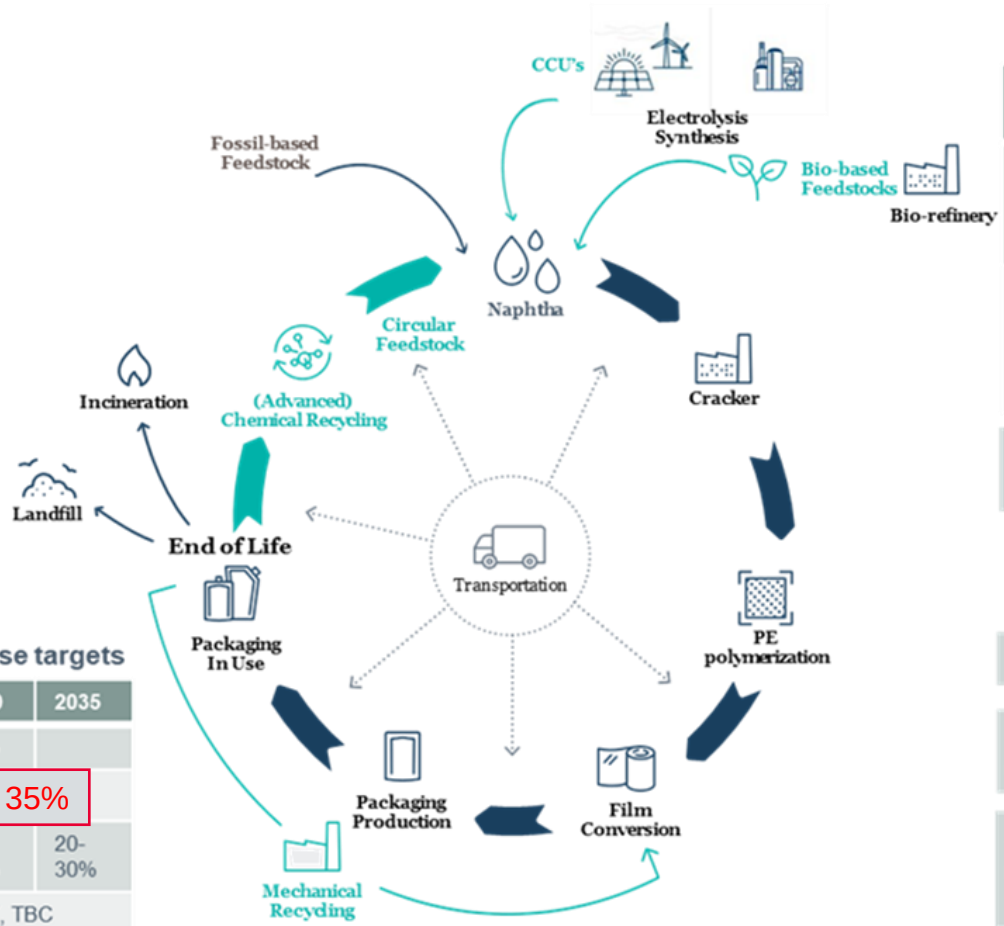
Source: "Reshaping Plastics" model

Main-report-v1.20-2.pdf (systemiq.earth)

EU Policy Targets:
Towards a circular & carbon neutral future

End of Life Targets

Recycling targets	2025	2030
Plastic packaging waste	50%	55%
Caps on municipal waste to landfill – discussion on bans		Max 10%



Alternative feedstocks targets / Sustainable Carbon Cycles (reduction of fossil feedstocks use plastics/chemical industry)

Aspirational goals	2025	2030
Alternative Sustainable non fossil Carbon Sources (bio, circular feedstocks for plastic waste and CCU)		20% (aspirational)
Captured carbon emissions	100% to be reported by its fossil, biogenic or atmospheric origin	

New Biobased, biodegradable and compostable plastics policy coming Nov 30th, 2022

Plastics in Use – Recycled content/Recyclability/Reuse targets

Recycled content targets	2025	2030	2035
Plastics bottles (SUP, approved)	25%	30%	
Plastic packaging		10% / 35%	
End of Life Vehicles		15-25%	20-30%
Building & Construction		LIKELY, TBC	

100% plastic packaging to be reusable or recyclable by 2030

Political debate ongoing to include bio-based plastics in recycled content legal definition

Study for chemical recycling/mass balance accounting recognition for mandatory recycled content targets in SUP. Political debate ongoing. Vote planned in 2Q23 in Parliament.

Brand owners: some public commitments

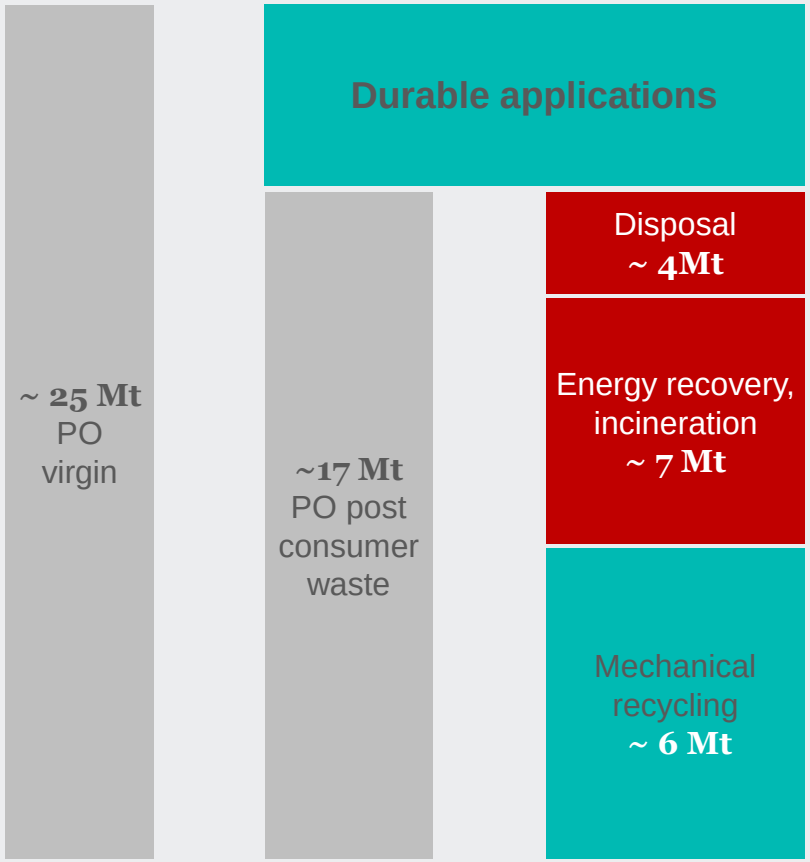
Seek Together™

	Recycled content targets for by 2025
Nestlé	30%
PepsiCo	25%
Unilever	25%
The Cola-Cola Company	25%
Mars, Incorporated	30%
L'Oréal	50%
Volvo	25%
Stellantis	35%
Mercedes	40% *by 2030

Source: The Global Commitment 2021 (ellenmacarthurfoundation.org)

Polyolefin: market dynamics in Europe

Belgium, total plastics demand 2.5 Mt, 60% incinerated, 40% recycled
A 100% circular system enabled by MR and CR scale up will enable 2.25 Mt GHG emissions per year



Opportunity for recycling, innovation, and investment

Post consumer recyclates
~ 4 Mt

PlasticsEurope via members projected chemical recycling growth:
- 1.2MMt in 2025 & 3.4 MMt in 2030

- Design for recycling
- Sorting / Separate Collection
- Washing
- Recycling
- Quality of recyclates
- Recycled content
- Chemical AND Mechanical recycling

Plastic Recyclers Europe
Recorded 10% MR capacity growth 2020

Sources:
Conversio Report for PCEP PO waste collection and recycling in EU28+2 countries 2019
AMI | Market Reports | Mechanical Plastics Recycling European Market 2022
Eunomia | Flexible films market in Europe: State of play – Production, collection and recycling data 2020

A global commitment to circularity

Our strategic priorities

Our targets: accelerating carbon neutrality and plastics circularity

Protect the climate

By 2030, Dow will reduce its net annual carbon emissions by 5 million metric tons. This represents a 15% reduction from Dow's 2020 baseline, and a 30% reduction from the 2005 baseline. By **2050**, Dow intends to be carbon neutral (Scopes 1+2+3 plus product benefits).

Transform the waste

By **2030**, Dow will enable 3 million metric tons of plastic to be collected, reused or recycled through its direct actions and partnerships.

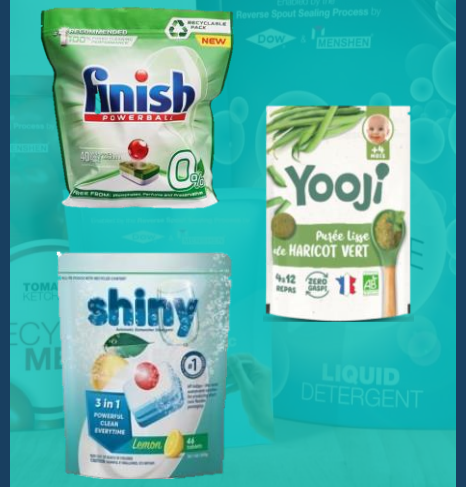
Close the loop

By **2035**, Dow will enable 100% of Dow products sold into packaging applications to be reusable or recyclable.

Driving Circularity with a lower co2 footprint in EMEA

Plastic sustainability

D4R
commercial reality



Mechanical recycling
transforming the value chain

MR. GREEN AFRICA

VALOREGEN
Advanced Recycling

Advanced recycling
picking up the pace

MURA

fuenix
Let no plastic go to waste

nexus CIRCULAR

plastogaz

NEW HOPE ENERGY

Bio-based
diversifying and expanding

crocs

ELOPAK

Carbon
the key growing driver

Extensive innovation portfolio

Terneuzen: Manufacturing & Value Park

Largest Dow Manufacturing site outside the US

Plants
Hydrocarbons
Packaging & Specialty Plastics
Polyurethanes
DOWLEX™/LDPE
EO
Others i-park tenants

Service Hub
Finance
Customer Service
Supply Chain
HR

R&D
Core and Business

Tenants – Manufacturing
Dow
Trinseo
Maschem
Olin

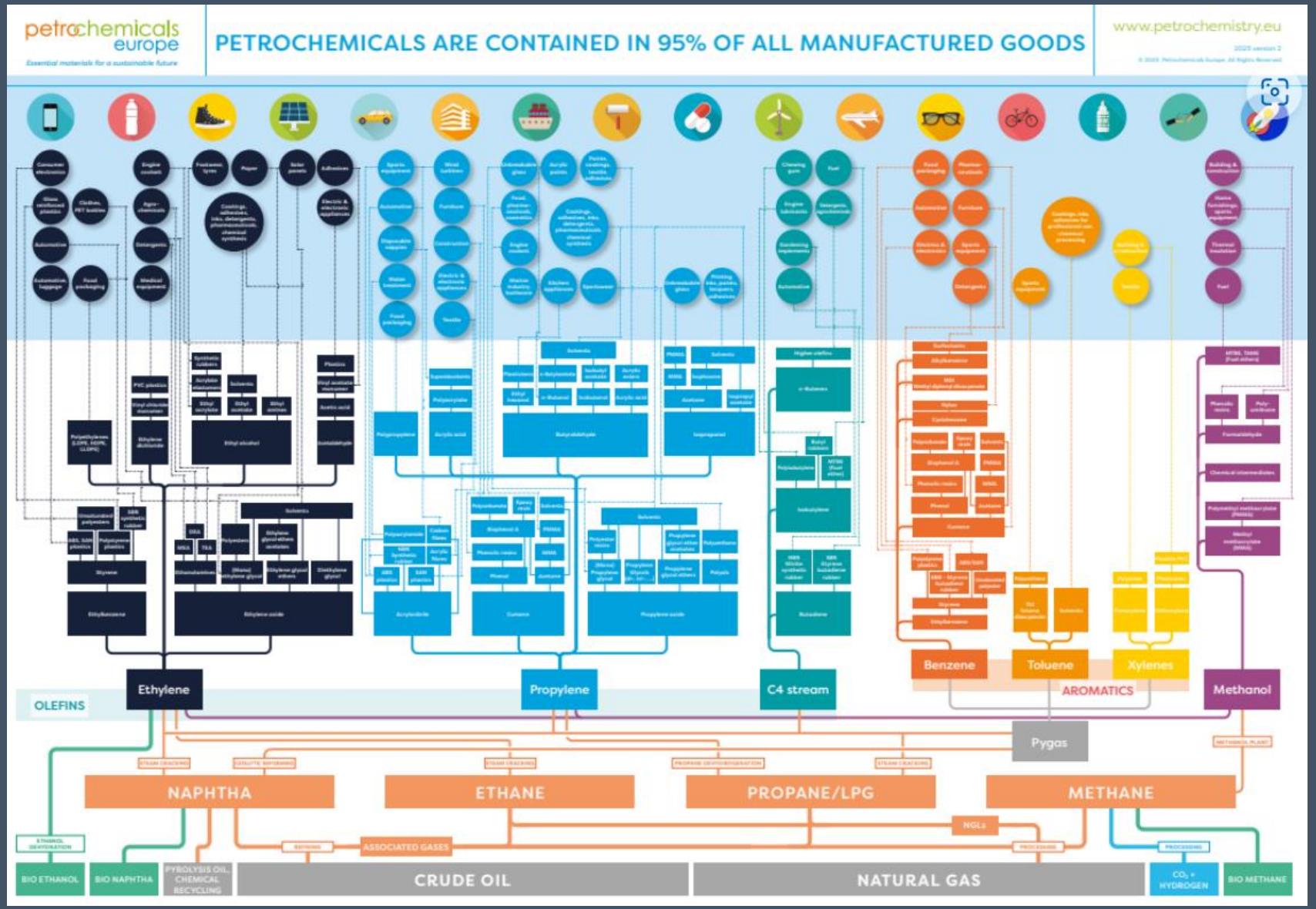
Logistics & Site Logistics
Oiltanking
Ravago
Katoen Natie
Bertschi

All modes of transportation
Present ~ 2400 shipments/year

Maintenance Value Park
Spie
Trinseo
Several workshops
Indaver
RSK

Recycling carbon in highly integrated industrial processes

- In chemical industry's highly integrated processes, carbon can be recycled and not emitted to the atmosphere.
- Carbon would be recycled into hundreds of different products across integrated production;
- An agreed chain of custody model is needed specifying how much recycled carbon can be allocated to plastics and other products.
- Chain of custody & mass balance methods (e.g., fuel exempt allocation) offer framework to **deliver desired recycled content targets** and **increase effectively recycled carbon use**.

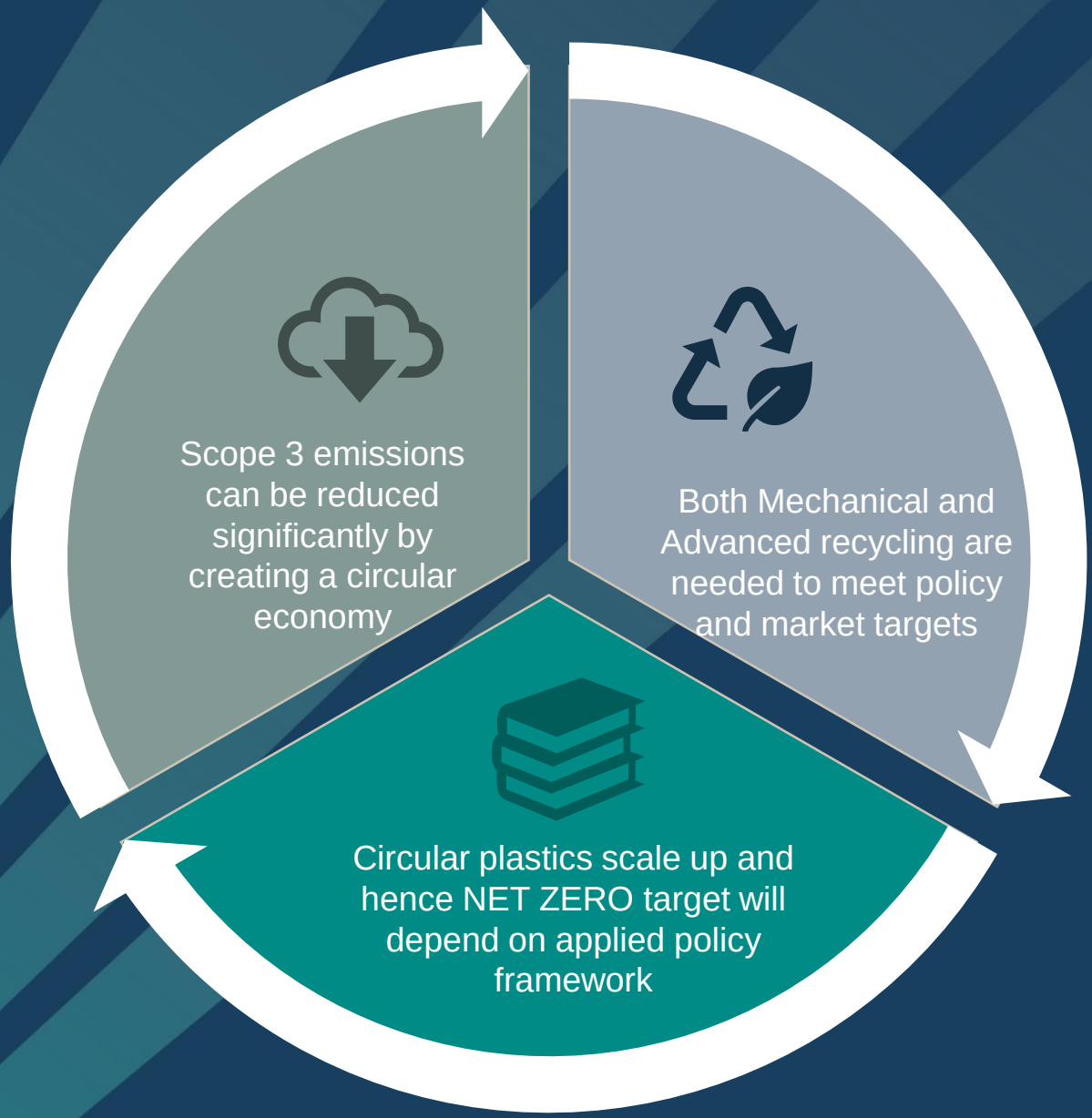


https://www.petrochemistry.eu/about-petrochemistry/flowchart/

Key Policy Enablers

https://www.petrochemistry.eu/about-petrochemistry/flowchart/

IN SUMMARY


Scope 3 emissions can be reduced significantly by creating a circular economy
Both Mechanical and Advanced recycling are needed to meet policy and market targets
Circular plastics scale up and hence NET ZERO target will depend on applied policy framework

THANK YOU