



ADVANCED RECYCLING UPDATE 2025

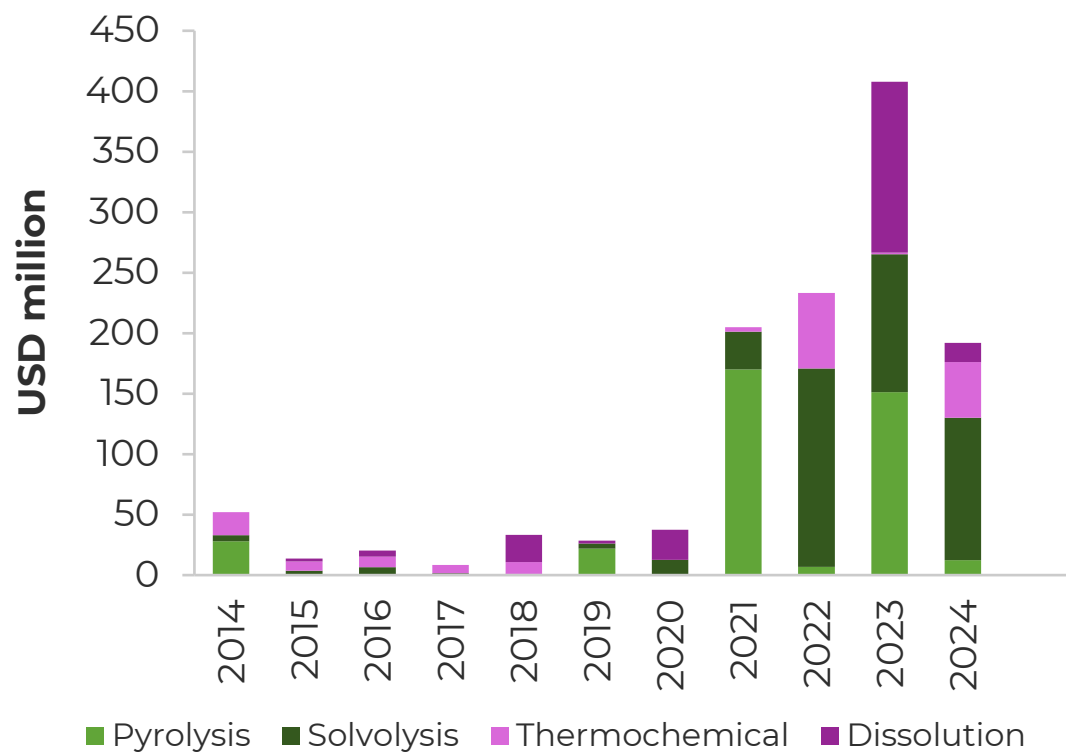
Charting a path forward after years of missed milestones



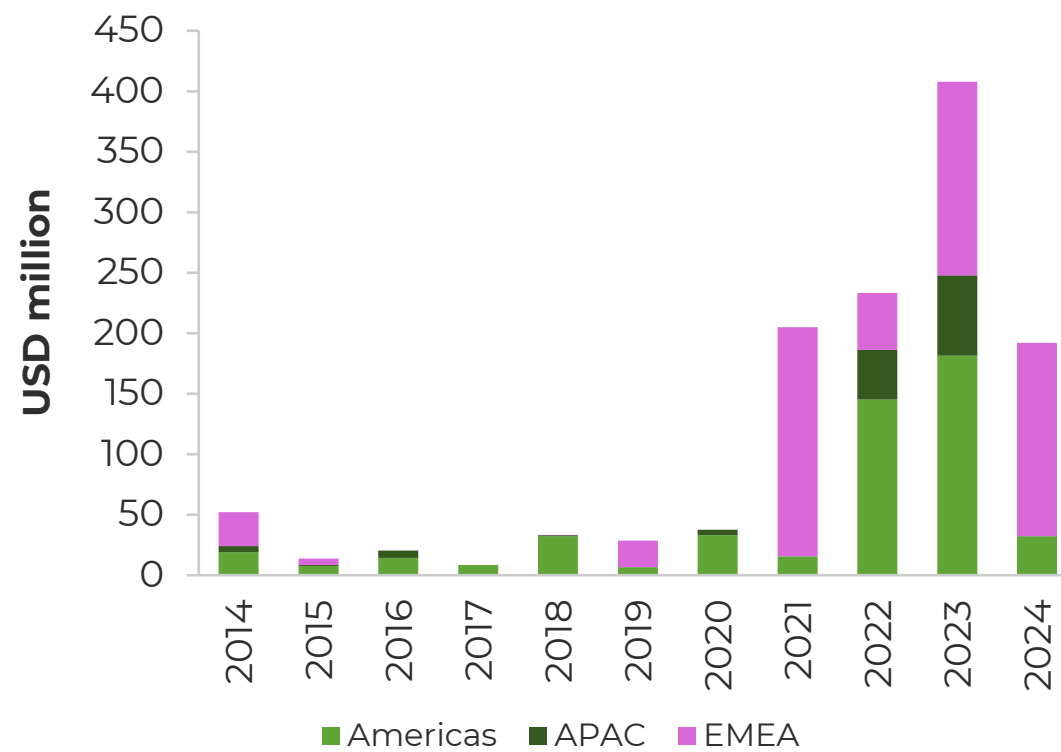
Marcian Lee, Ph.D.
Analyst

>USD 1 BILLION IN VC INVESTMENTS

Advanced Plastic Recycling Funding by Technology Type



Advanced Plastic Recycling Funding by Region



THERE ARE MAJOR CONSEQUENCES TO FAILURES

IN THE UNITED STATES BANKRUPTCY COURT FOR THE DISTRICT OF DELAWARE

In re:

Brightmark Plastics Renewal LLC, *et al.*,¹

Debtors.

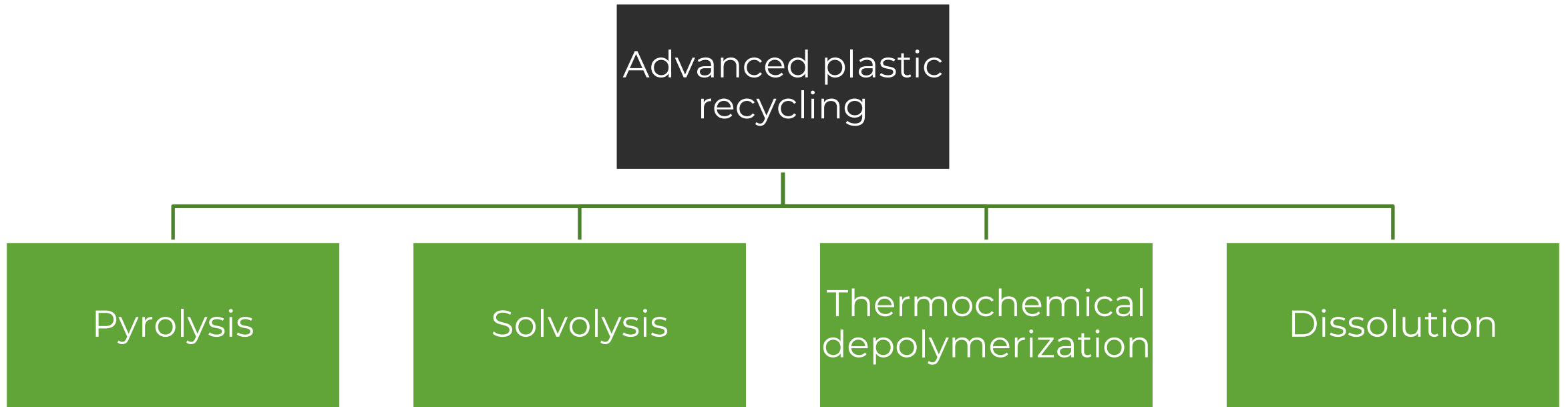
Chapter 11

Case No. 25-10472 (LSS)

(Joint Administration Requested)

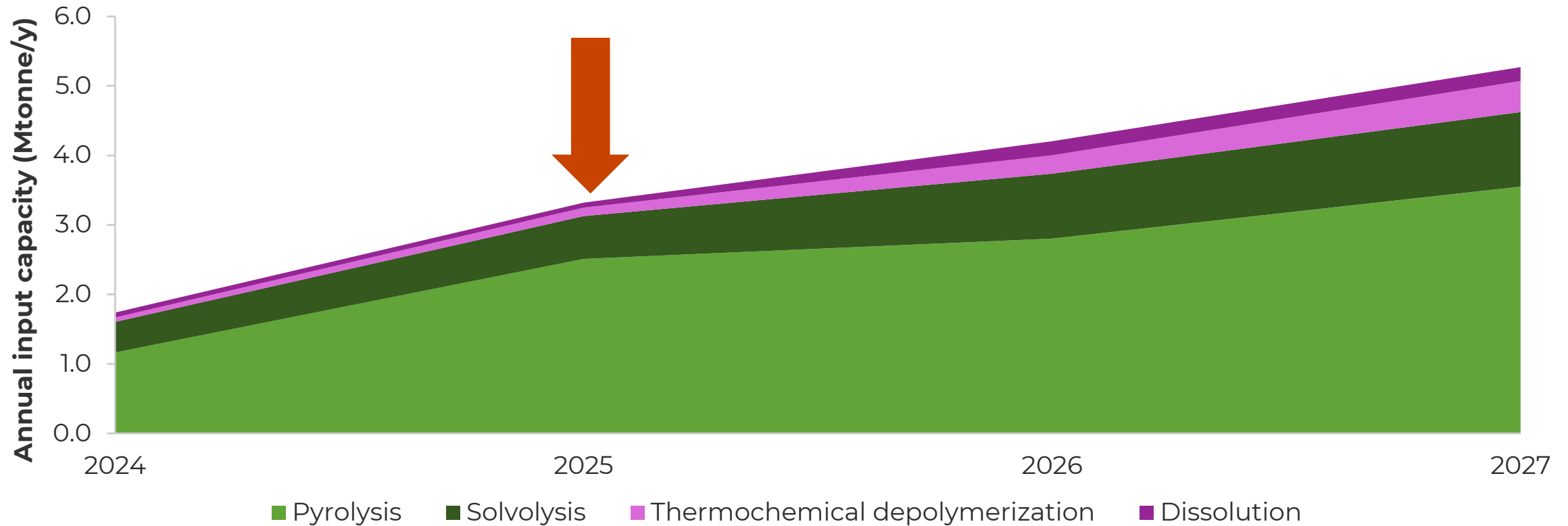


ADVANCED RECYCLING TAXONOMY



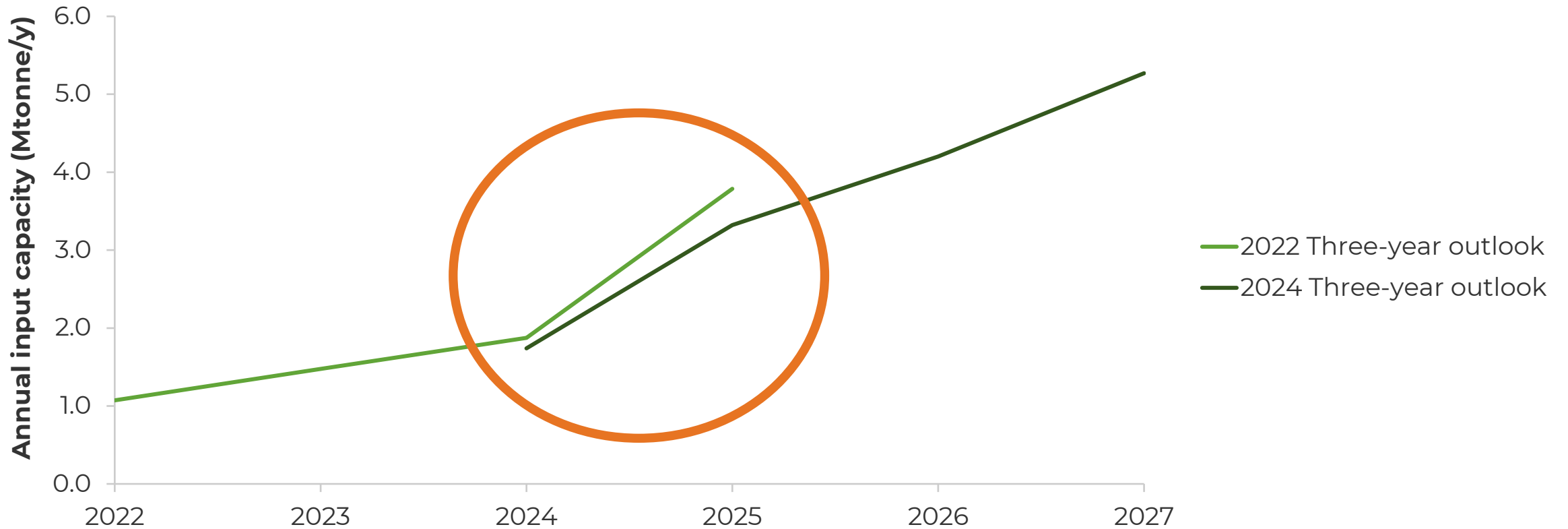
>3 MTONNES OF CAPACITY BY 2025

Advanced Plastic Recycling Capacity: Three-Year Outlook

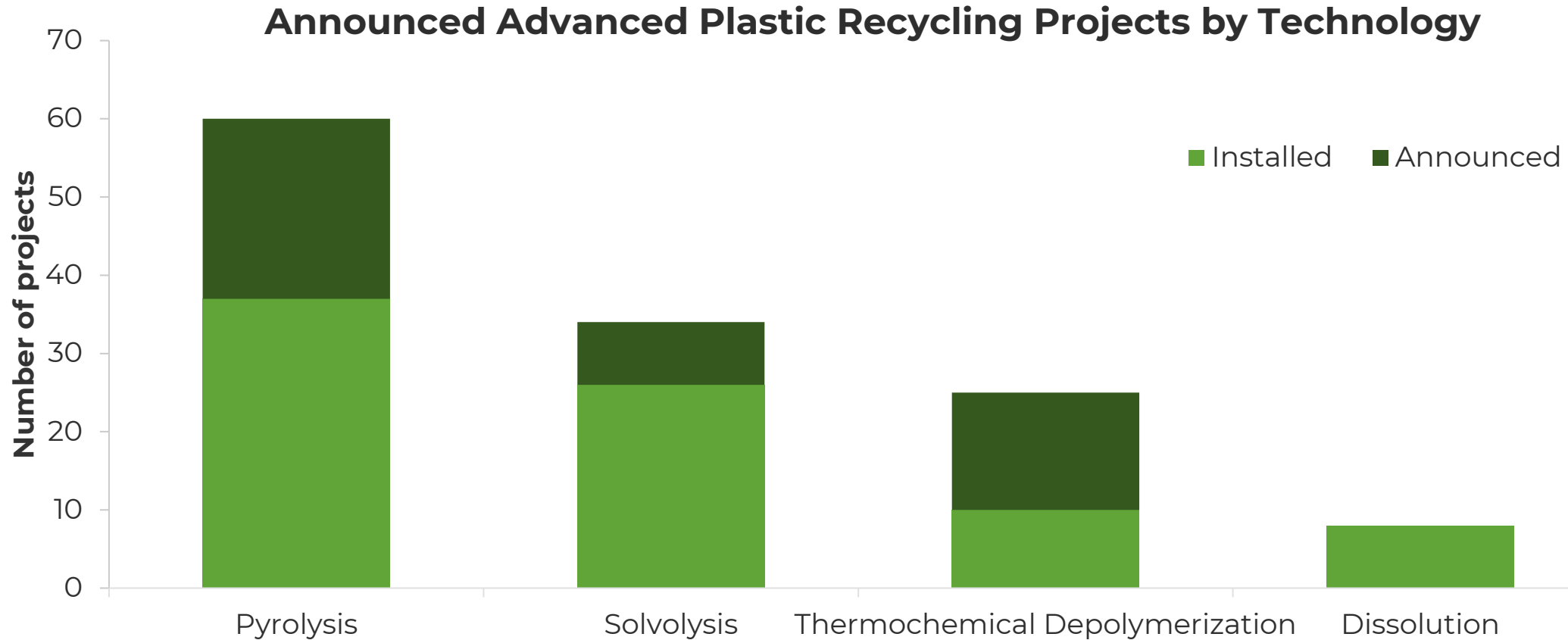


2025 IS A KEY INFLECTION POINT

Advanced Recycling Capacity Announcements, 2022 & 2024



ANNOUNCED ≠ COMPLETED



1 MTONNE OF CAPACITY CANCELLED



APK



BLUE CYCLE
De kunst van de kringloop

Bankrupt



BRIGHTMARK
REIMAGINE WASTE

agilyx ionika

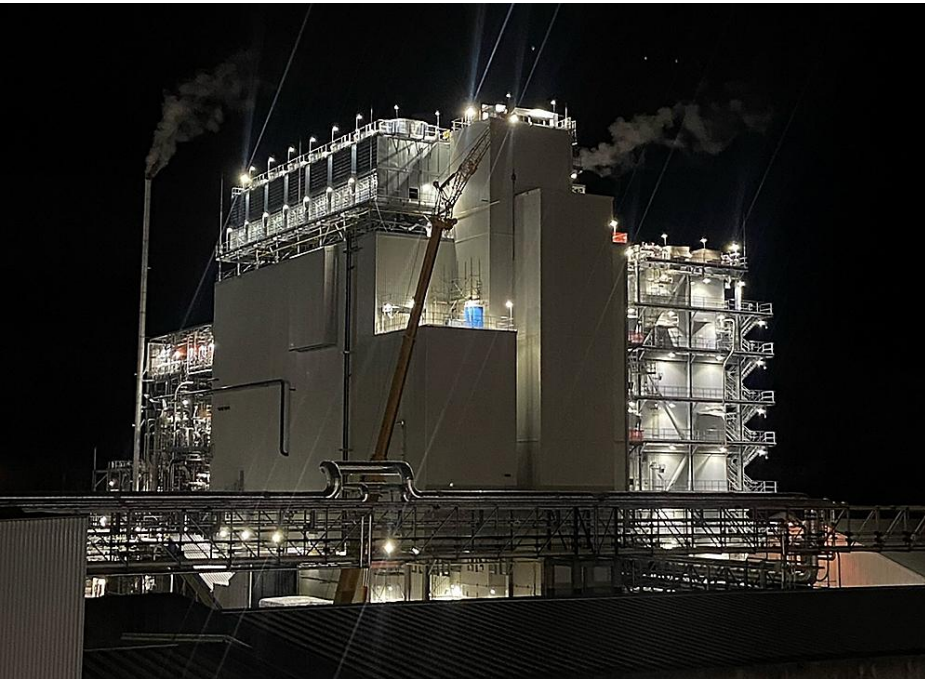
**Shut down
plant**



NEW HOPE
ENERGY

WE STILL RECORDED SOME BIG HITS

EASTMAN



ExxonMobil



ADVANCED RECYCLING IS MATURING

We're learning how to play within regulatory boundaries and technical limitations; we're figuring out how to be successful.





Advanced plastic recycling is going through puberty

IS ADVANCED RECYCLING, *RECYCLING*?



HOW TO ATTRIBUTE RECYCLED CONTENT?



ARE THE RECYCLED PLASTICS FOOD GRADE?



POLICIES DIFFER REGIONALLY

	U.S.	EU	APAC
Is advanced recycling, <i>recycling</i>?	Depends on state-level policy	Leaning toward general acceptance; no fuels or energy recovery	Implicit acceptance
How to attribute recycled content?	No regulation; de facto is free-allocation	Leaning towards fuel-exempt mass balance	No regulation
Are the recycled plastics food grade?	Certification (LNO) is voluntary; general acceptance of chemically recycled PET	All novel processes will need to apply for EFSA approval	No distinction from mechanically recycled plastics

KEY TAKEAWAYS

1

Global advanced plastic recycling capacity is growing; some winners and losers are emerging.

2

2025 will be a key inflection point; we can expect some delays, and the outcome can impact investor optimism in the technology.

3

Policy on advanced plastic recycling differs regionally; the uncertainty can hold back technology adoption.

ADVANCED RECYCLING IS NOT A FAD

LAST UPDATED: APRIL 15, 2025

BASF launches chemically recycled PA6 fibers with 500-tonne/y plant in Shanghai

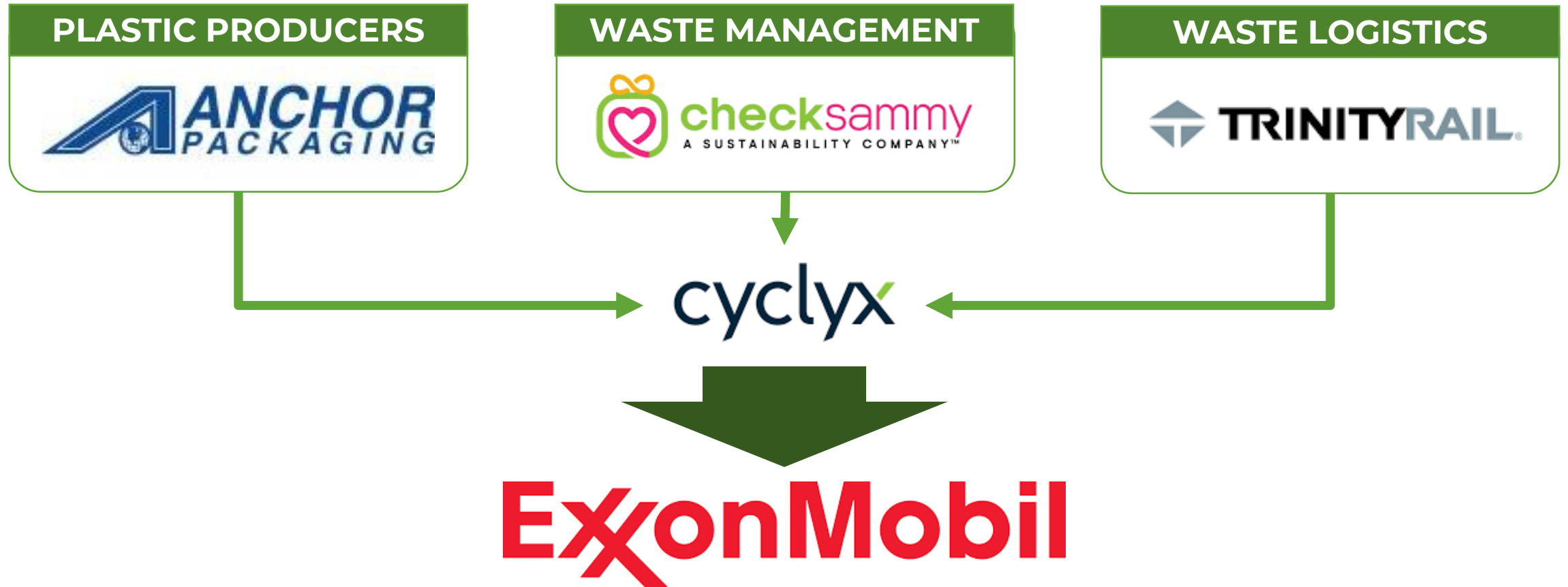
LAST UPDATED: MARCH 14, 2025

OMV secures EUR 81.6 million EU grant for pyrolysis plant, another signal of EU regulatory support for the technology

LAST UPDATED: MARCH 05, 2025

Resynergi secures USD 24.4 million Series B funds to commercialize microwave-assisted pyrolysis technology

RECYCLING INVOLVES MORE THAN JUST THE REACTOR



ALIGN WITH REGULATORY GUIDANCE



LOOK AT NEXT-GEN TECHNOLOGIES



PLASTIC RECYCLING TECHNOLOGY LANDSCAPE

1

PYROLYSIS

From top to bottom: corporates, startups

2

SOLVOLYSIS

From top to bottom: corporates, startups

3

THERMOCHEMICAL DEPOLYMERIZATION

From top to bottom: corporates, startups

4

DISSOLUTION

From top to bottom: corporates, startups



THANK YOU



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