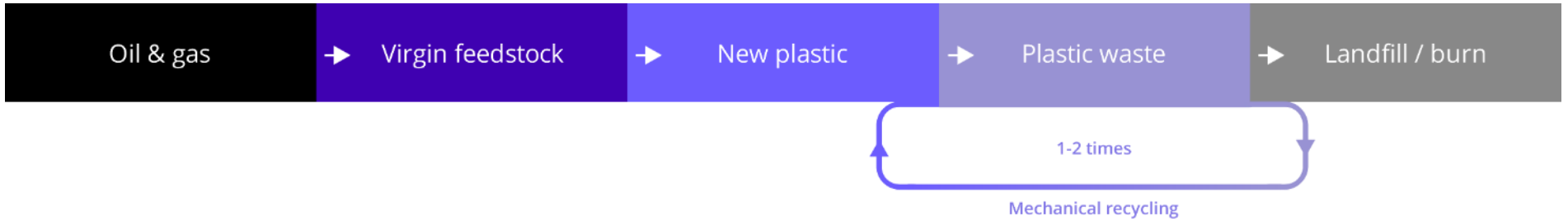
enzymity

The bio-platform for true plastics circularity

The plastics economy is highly linear:



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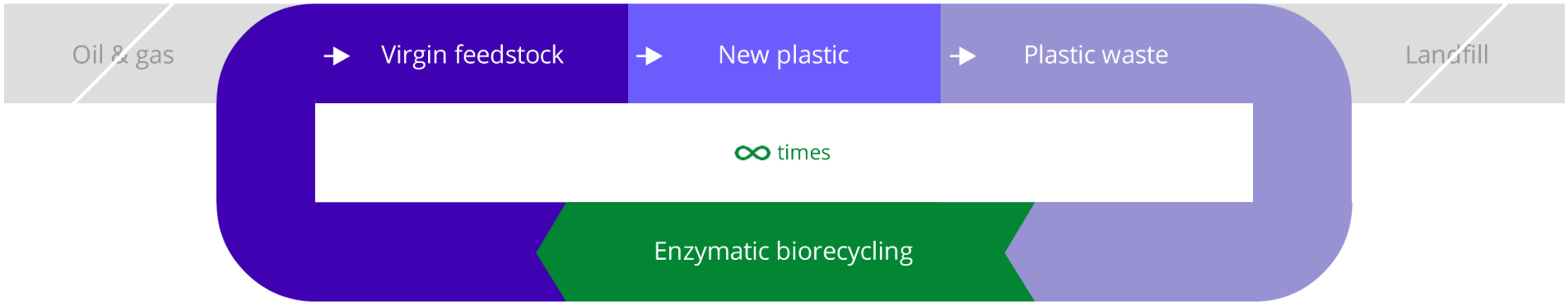
Closing the loop with biotechnology:

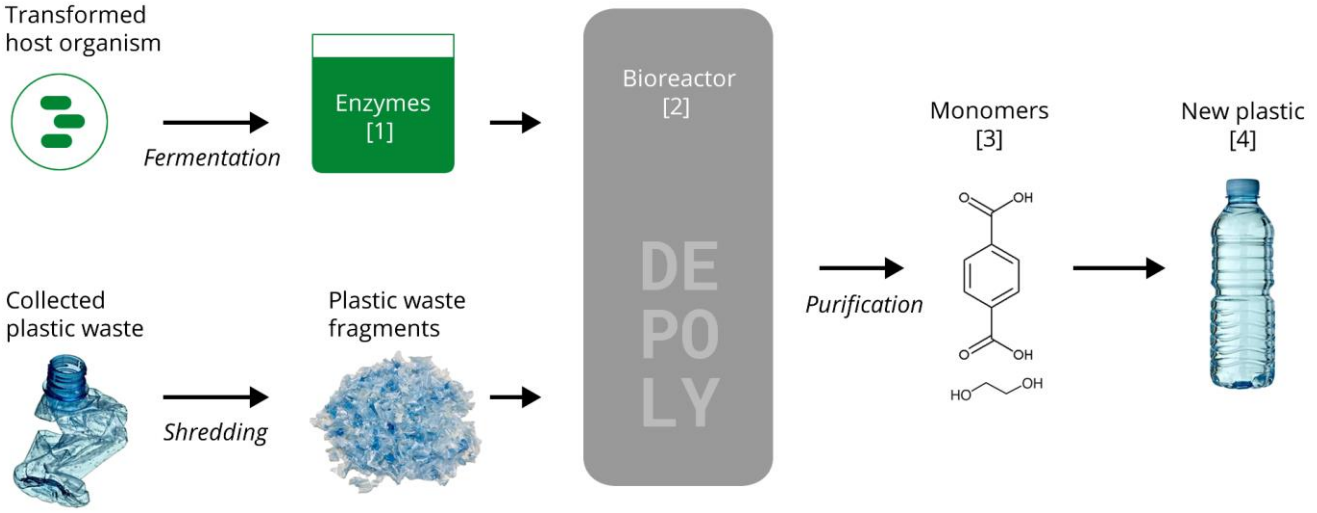


Solution

Recycling plastic with engineered enzymes:

1. Produce heterologous enzymes
2. Treat plastic waste with enzymes
3. Recover individual monomers
4. Use monomers to make new plastic

Run the cycle [2 → 4] *ad infinitum*



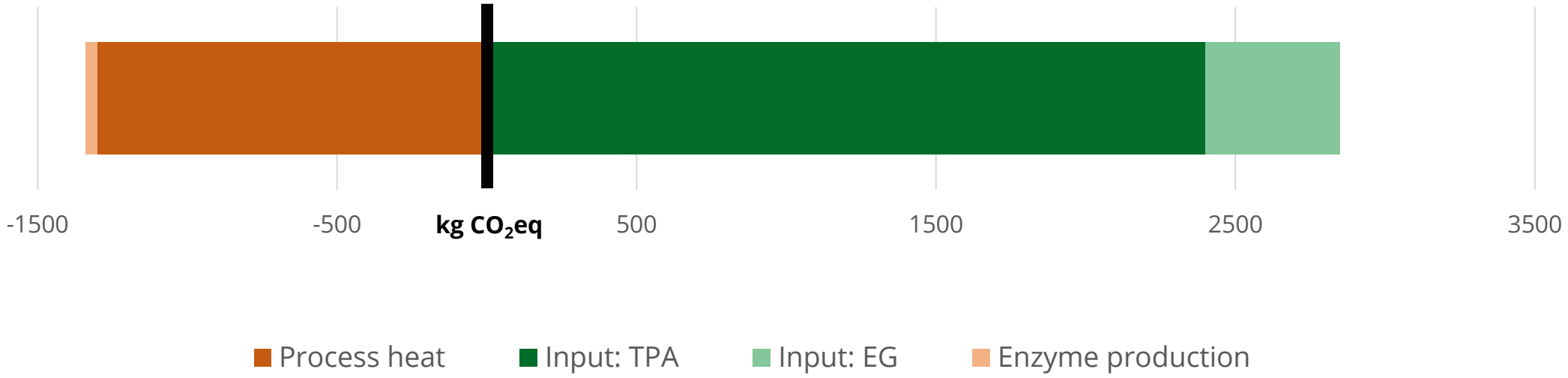
Advantages

Gentle but effective:

	Biological	Chemical	Mechanical
Infinitely circular?	✓	✓	✗
Low temperature?	✓	✗	✗
Mixed inputs?	✓	✗	✗
Lower emissions?	✓	✗	✗

Sustainability

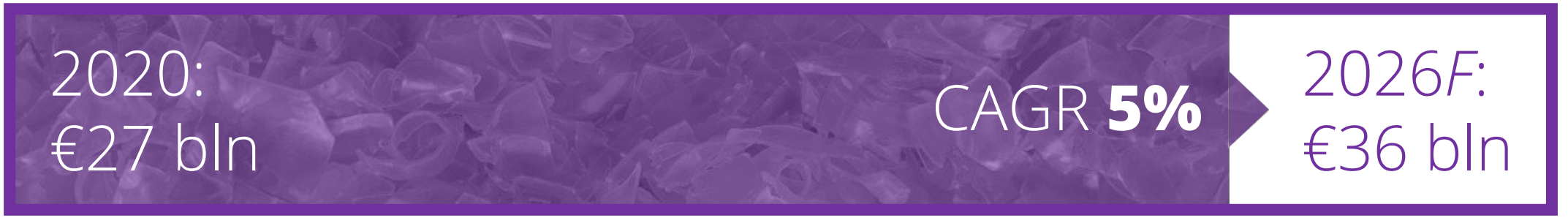
Saving ~1.5 tonnes of CO_2eq / tonne compared to virgin plastic



Market Beachhead

Focus on enzymatic recycling of PET:

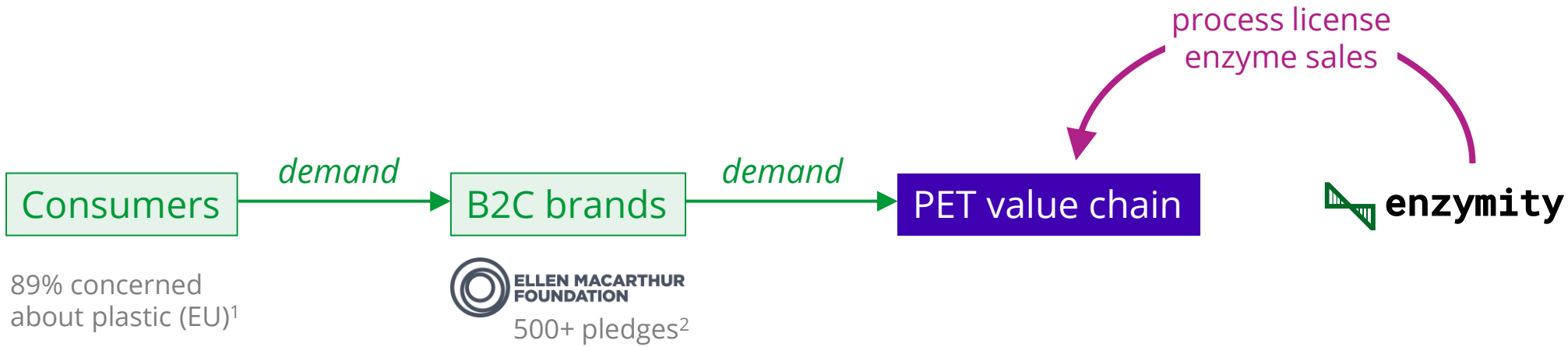
Global PET market



TAM: the entire global PET recycling market (~€7.7bln)
SAM: biotechnological/enzymatic PET recycling market
SOM: 10-30% SAM, focus: mixed plastic waste streams

Commercialization

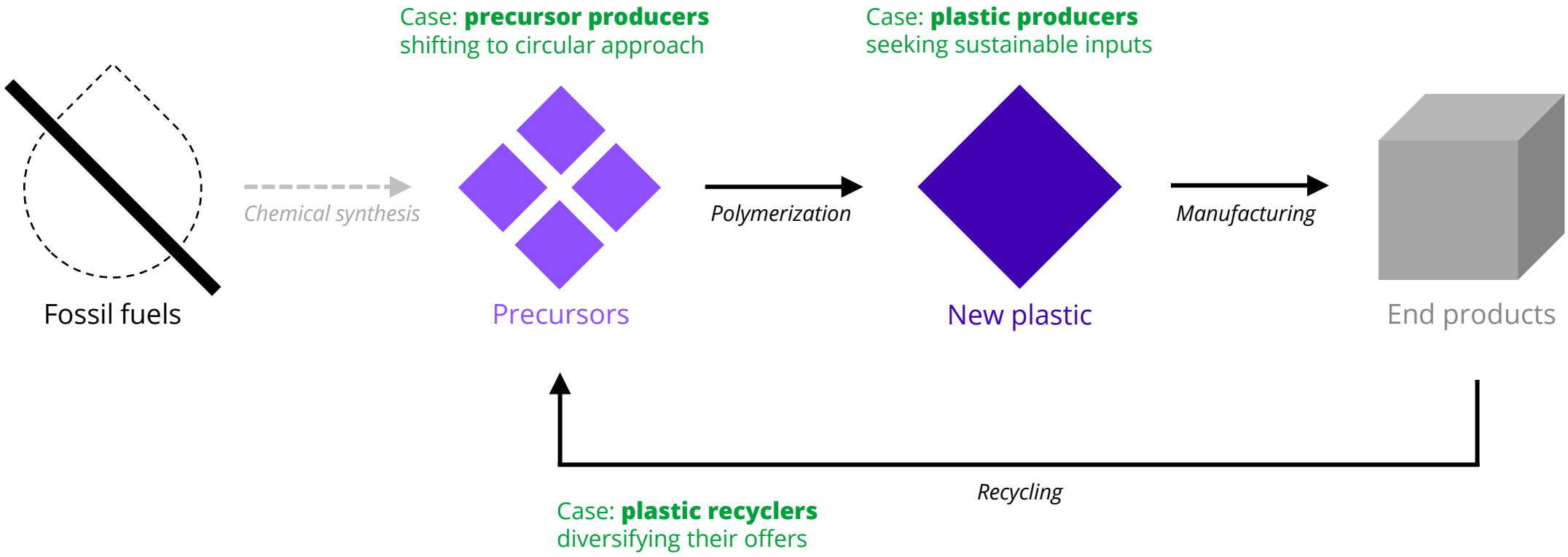
Licensing business model reinforced by growing demand:



[1] Eurobarometer, Attitudes of Europeans towards the Environment, March 2020
[2] Ellen Macarthur Foundation, The Global Commitment 2021 Progress Report

Commercialization

Pluggable into the existing value chain:



Commercialization

Interest to demo the technology from recyclers and B2C brands

Finland's leading recycling player:

fortum

One of the largest recyclers in Sweden

RAGN SELLS

The leading global cosmetics producer

L'ORÉAL

Multidisciplinary team based in Riga

Andrii Shekhirev

Cross-functional leadership

M.Sc. International Business & Finance

Krista Belajevskova

Partnerships, impact assessment

B.Sc. Environmental Science

Aleksejs Kolpakovs

Business development

M.Sc. Innovation Management

Elina Dace

Circular economy and sustainability

Ph.D. Environmental Engineering

Janis Liepins

Microbial growth and metabolism

Ph.D. Microbiology & Biotechnology

Filips Oleskovs

Heterologous protein production

M.Sc. Biotechnology & Molecular Biology

BEAMLINE ACCELERATOR

ClimAccelerator Baltics & Slovakia

eit Climate-KIC

UNIVERSITY OF LATVIA Institute of Microbiology and Biotechnology

BIOCATALYST FOUNDATION

LIAA

DIGICIRC

enzymity: pre-seed €200K | TRL4→6

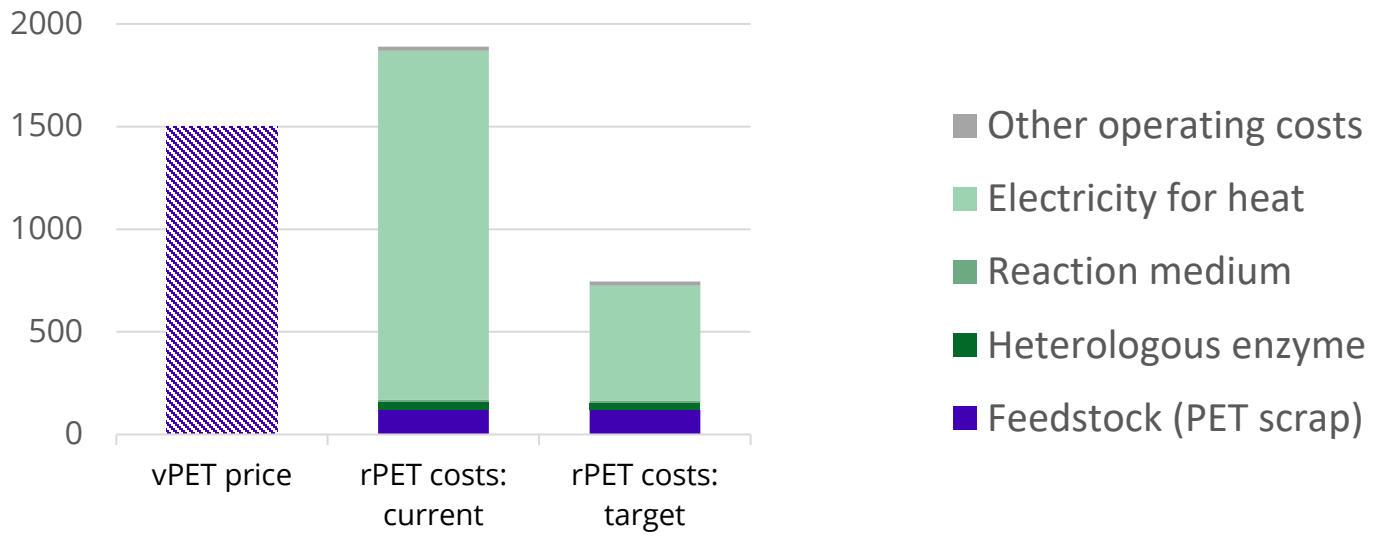
Proprietary technology for biorecycling of plastic waste

Growing **demand pull** from consumers and governments

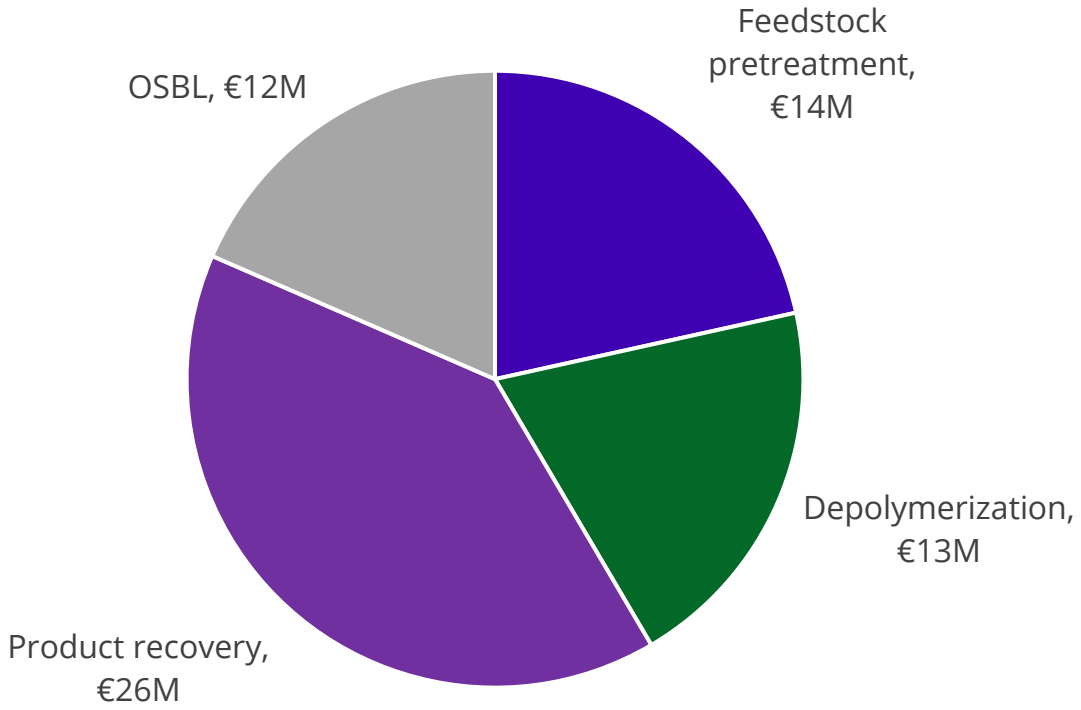
Targeting **€27 billion** PET market via licensing model

Get in touch: hello@enzymity.com

Unit Economics for enzymatically upcycled PET, €/tonne



Projected cost of a 150 t/day plant: *65 million EUR*



Competitors Appendix III

Unique features vs competition

	enzymity	CARBIOS
Primary focus	Enzyme platform	Process design
Enzyme optimization	Computational	In-vitro
Target waste streams	Mixed or pure	Homogenous