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A GLOBAL COMPANY ›

BRASKEM IN NUMBERS

TOGETHER WE
CAN DO MORE

+8,500
Team members

USD **97 million**
Invested in Innovation in 2023

40
Industrial Units

Clients
in 71
Countries

+8.500
Team members
In feb 2023

Recurring ebitda
605 million
USD in 2023

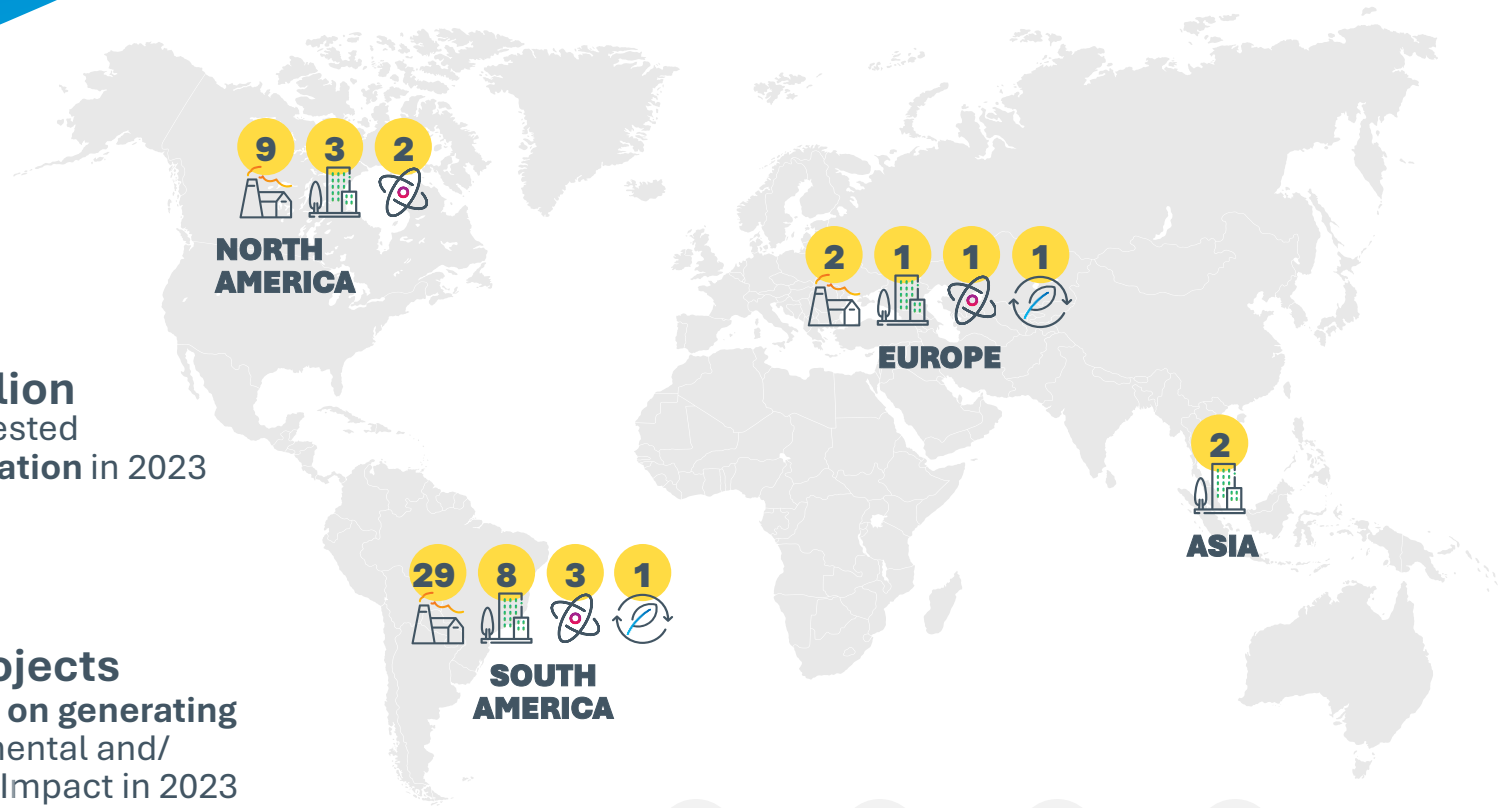
Production capacity of 21,3 million tons of chemicals and resins in 2023

Free cash generation of
591 million
USD in 2023

97 million
USD invested
In innovation in 2023

215 projects
Focused on generating
Environmental and/
or social Impact in 2023

352,000+
Benefited from Socio-environmental
Projects in the world in 2023



40	14	6	2
Industrial units	Offices	Innovation centers	Recycling facilities

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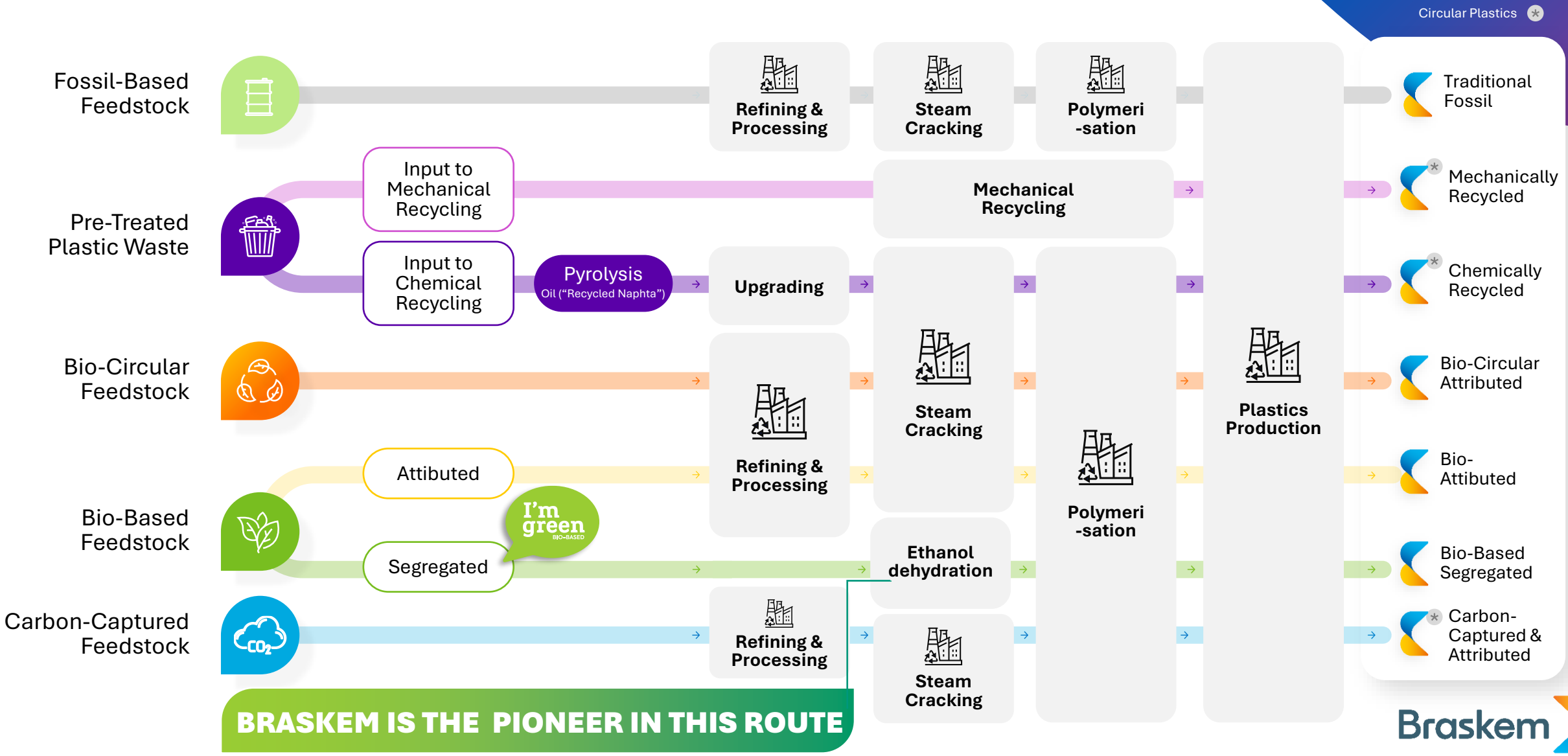
THE TRANSITION TO A CIRCULAR ECONOMY RELIES ON A DIVERSIFIED FEEDSTOCK MATRIX



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KEEPING CARBON IN THE LOOP THROUGH OUR SUSTAINABLE SOLUTIONS

Carbon source		
Plastic Waste	Chemical Recycling	ELIMINATION OF PLASTIC WASTE
	Mechanical Recycling[2]	
Bio-residues	Bio-Circular	
Renewable	Bioattributed (Mass Balance1)	
	Biobased (Segregated) — I'm green BIO-BASED	COMBATING CLIMATE CHANGE
Renewable non-biological origin	CO_2 to Chemicals	

[1] Mass balance concept certified by ISCC+
[2] Mechanical Recycling combats climate change when compared to traditional plastic feedstock.

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MECHANICAL & CHEMICAL RECYCLING

No objective testing & Reliance on certificates
at product level to identify recycled content

Mechanical Recycling

- Controlled Blending
- Certificate of Origin

Chemical Recycling

- "Mass Balance"
- ISCC+ Certificate

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OUR BIO-BASED SOLUTIONS

Attributed

Drop-in calculable and **certifiable bio-attributed & bio-circular attributed** solutions

- Bio-based content is **attributed** through a mass balance[3] (bookkeeping) approach
- Certified ISCC+
- **Carbon footprint** validation dependent on feedstock and process, **based on estimate calculation**.

Segregated

Drop-in **sustainably sourced, certified, traceable & measurable** bio-based solution

- **Measurable bio-based** (C14) content (in product)
- Feedstock sustainably sourced and tracked **following Braskem's Responsible Sourcing Program**
- **Carbon capture** (negative carbon footprint[1])

Note: (1) from cradle-to-gate. (2) ISCC certification (3) The carbon footprint is dependent on the feedstock source. (4) Mass balance enables tracking of the amount of circular and/or bio-based content in the value chain and attribute it based on verifiable bookkeeping.

BIO-BASED SOLUTIONS

Key Points

Different from recycling, bio-based solutions have an objective test at product level to identify biogenic carbon (Carbon dating through C14)

- Allow the use of **existing production assets** of chemical industry
- **Mass Balance** is necessary to minimise the risks of transition from Fossil linear-economy to a Circular bio-economy

How to establish common understanding of the difference between bio-based and bio-attributed?

- **Differentiate** the two types of bio-based solutions and have an umbrella term (common terminology)
- Overcome the reluctance of customers in **accepting virtual content**
- **Regulate Claims** for general public that are **accurate and transparent**

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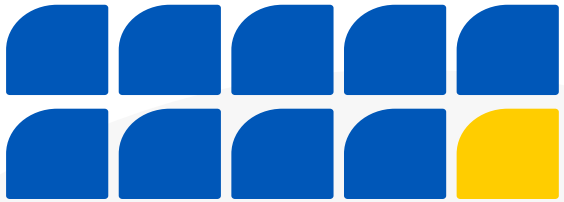
“RESIDUAL”
Bio-based Content

Feedstock

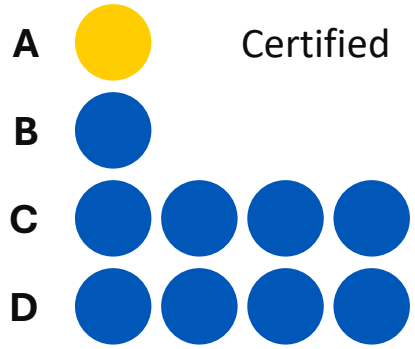


Biomass
(10%)

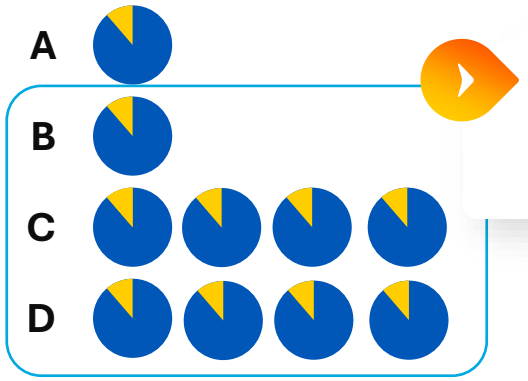
Process

Products

Virtual allocation
= Mass Balance Approach



Physical bio-based content



Physical bio-based content is not available for claims

Advantages of Mass Balance

Expand Bio-based applications

Same property as conventional one

No need for extra facility

Who should control the use of this residual physical content in a global interconnected economy?

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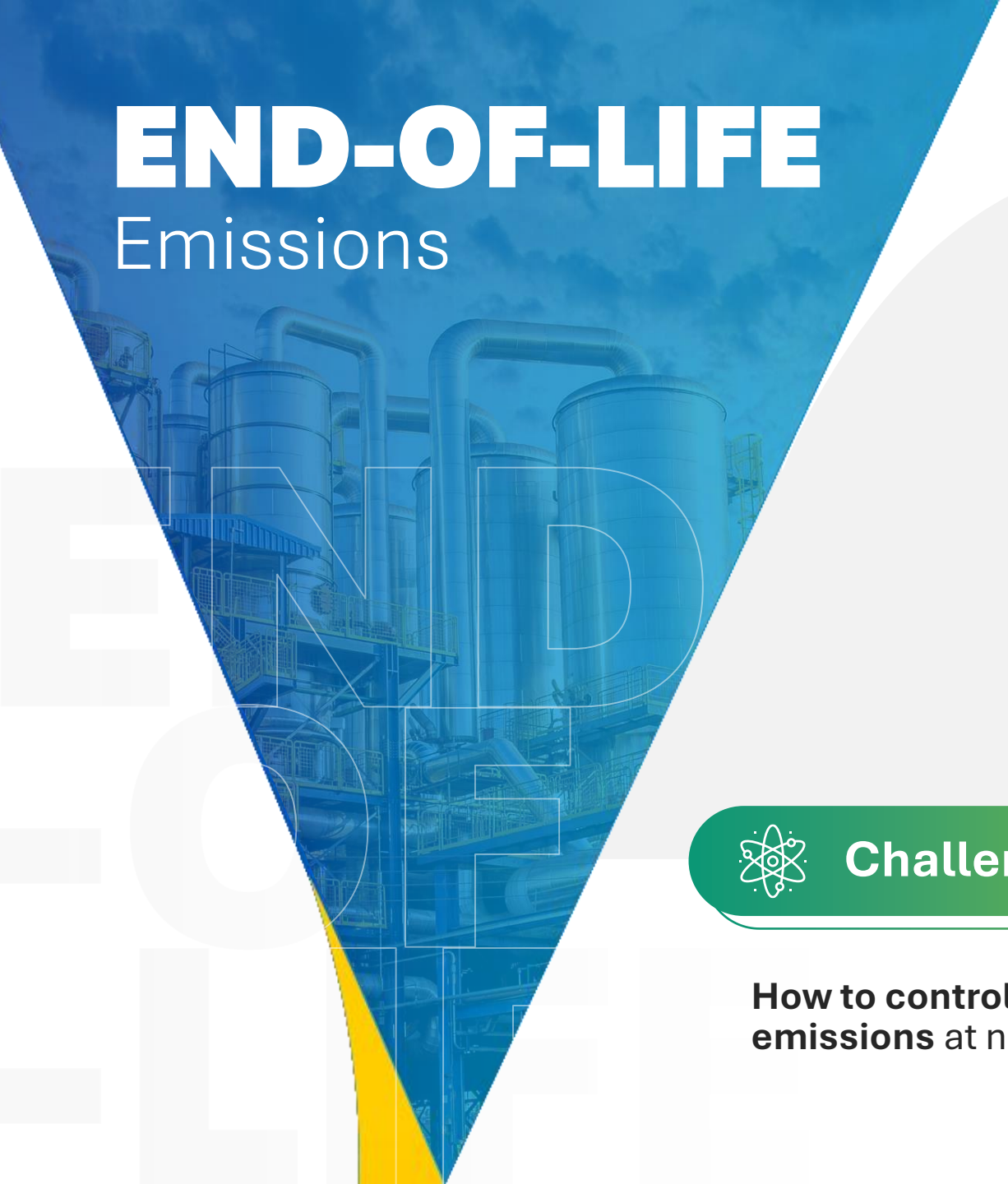
END-OF-LIFE
Emissions



Facts

If all materials are incinerated, there is no under-accounting of end-of-life emissions

Production might not be sold to a single geography

Some plastics are recycled, and recycling does not emit the carbon content of the plastic

In some regions, plastics are landfilled, which does not result in emissions during their first 100 years of decomposition

Challenge

How to control the total end-of-life emissions at national level?

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KEY QUESTIONS

01

How can we establish a shared understanding of the difference between bio-based and bio-attributed materials, particularly in terms of terminology and green claims?

02

How should bio-attributed and residual bio-based content in non-attributed plastics be managed within the market to ensure traceability?

03

What is the best approach to accounting for CO2 emissions at the end-of-life (EOL) stage for incinerated and recycled materials, considering carbon footprint (CFP) and standardization?

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I'm green™
BIO-BASED
LIKE TRADITIONAL PLASTIC
BUT MADE FROM PLANTS

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