I'm green™ RECYCLED

SUSTAINABLE SOLUTIONS

that promote a

CIRCULAR ECONOMY

Braskem Idesa

Building a **circular future**

Based on a Circular Economy model, at **Braskem Idesa** we produce and deliver a solution to the market: mixtures of recycled materials and virgin resins which will be produced and supplied in collaboration with local recyclers.

For this reason, we continue to innovating the processes that allow us to develop chemical and plastic solutions that will help build a circular future and generate a better impact on the environment and society.

This new solution is composed of:

Recycled material (HDPE or LDPE)

Virgin material (HDPE or LDPE)

It reinforces our values, beliefs and commitment to the sustainable development of the country.

In addition, this important development positions us as the first Mexican company to offer a high-quality solution that contributes to the Circular Economy, which is part of the portfolio of.

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I'm green™ BIO-BASED

I'm green™ BIO-BASED & RECYCLED

The history of **Braskem Idesa**

Created in 2010, it's an association in which Braskem participates, the biggest producer of thermoplastic resins and leader in America, and Grupo Idesa, one of the main Mexican business groups. Together the companies lead the **Braskem Idesa** complex, which focuses on the development and implementation of a petrochemical complex for the production of polyethylene in **Nanchital, Veracruz.**

Investment

US$ 5,200
millions

Annual production:
1 million 50 thousand TONS
of High and Low Density Polyethylene

3 plants
2 of High Density and
1 of Low Density

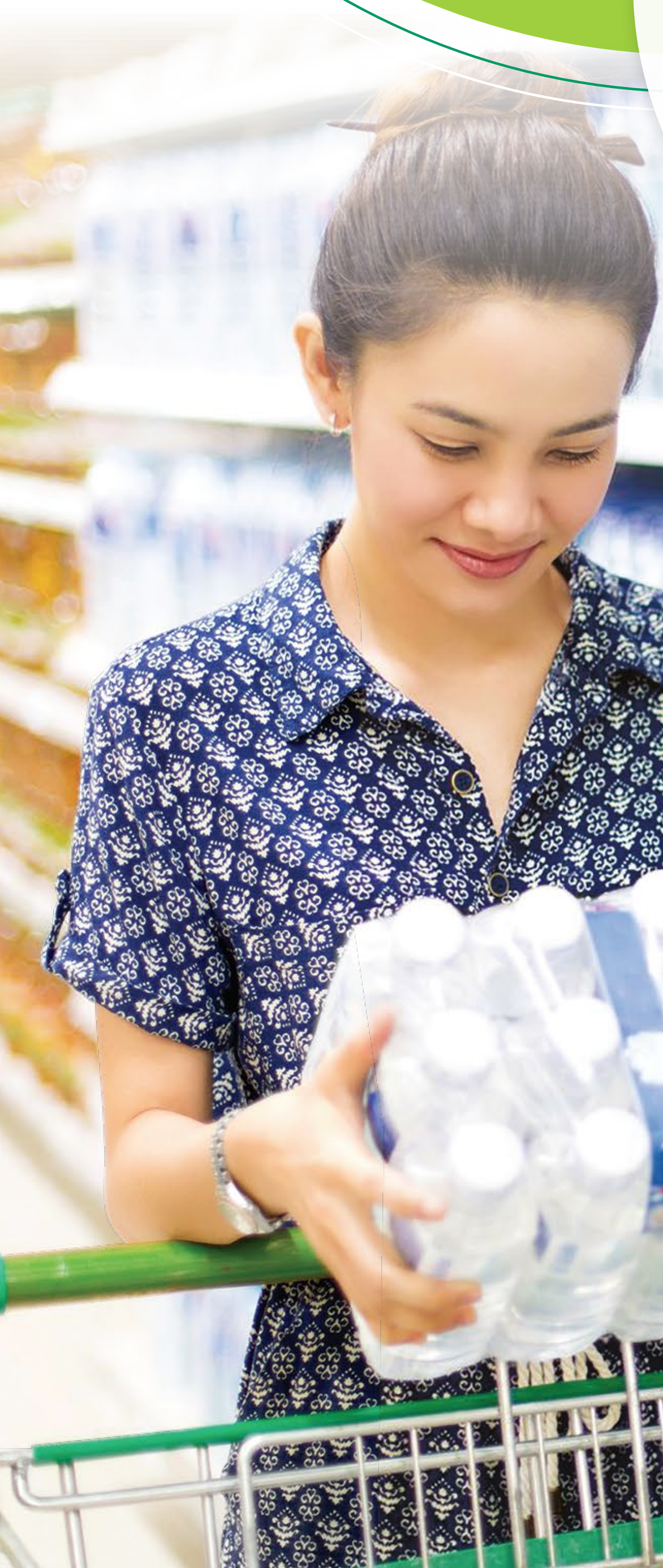
ETHANE IN GAS AS RAW MATERIAL
Best features vs. liquid

CUTTING EDGE TECHNOLOGY

COMPETITIVENESS

WORLD SCALE
Cracker of 1 million tons/year and Plants from 300 to 450 thousand tons/year

IDEAL INFRASTRUCTURE
Ports, railways, roads, railways

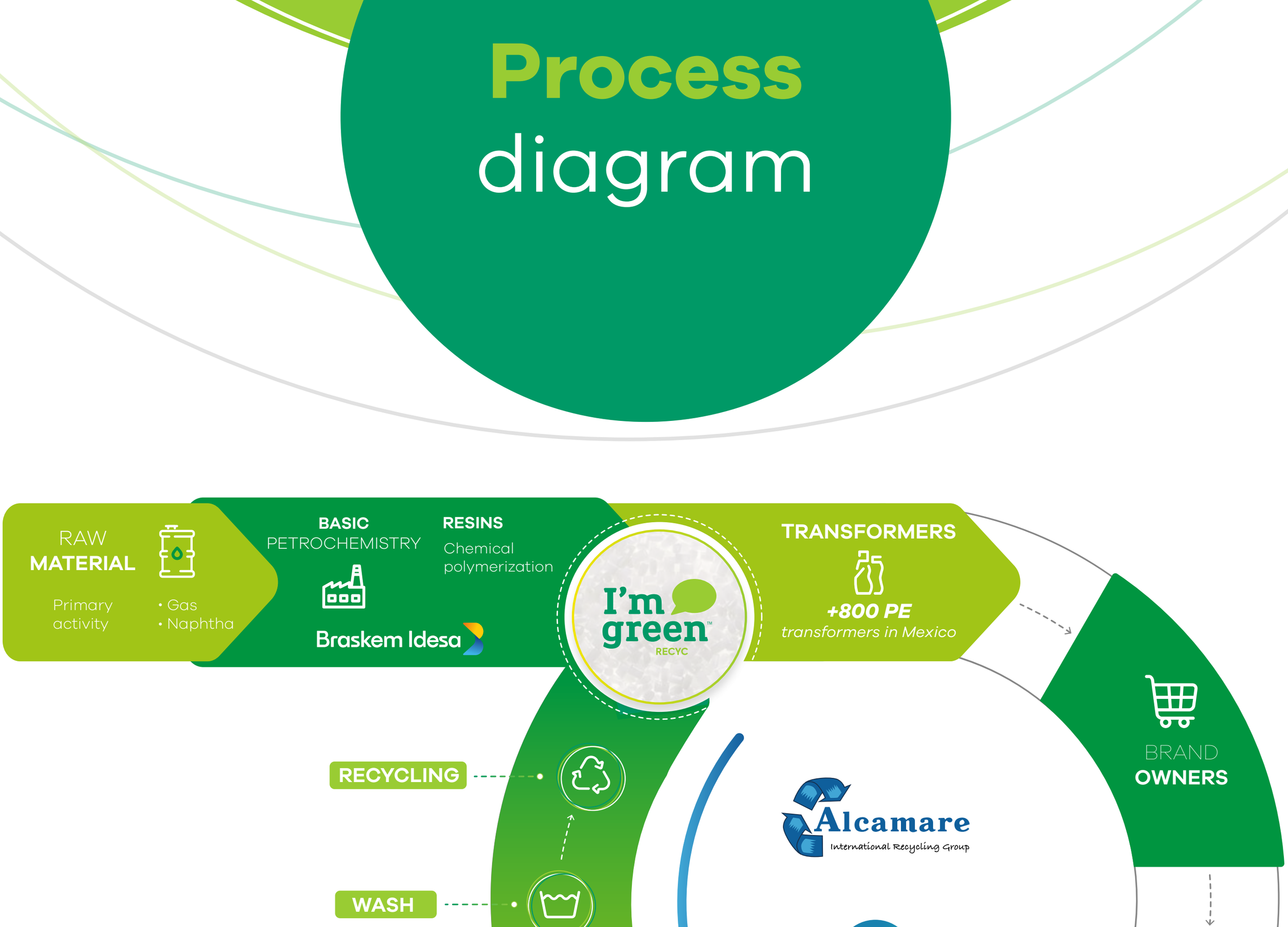


Main benefits of our *PCR resin vs. Recycling*

- Allows the use in high performance applications
- Lot-to-lot quality
- Traceability throughout the process
- Reduction of carbon footprint and energy consumption

Also our **PCR resins** are solutions with social and environmental impact (circularity of plastic).

Process diagram



CONSUMERS

1

COLLECTION

- **Compilation of HDPE** in collection centers and purchase from gatherers, who separate it before coming into contact with household garbage.
- Material **verification.**

2

- Elimination of containers **NOT made** with **natural HDPE.**
- Pressing, bale formation and transport to the **Alcamare** plant.

CLASSIFICATION

- The process starts with:
  - **1st Separation** of containers and spin to remove: lids, ring and labels.
  - **2nd Separation** by different material and color (FTIR Technology).
  - Separation of non-ferrous materials.
  - Packaging grinding.

3

- **Elimination of organic residues** with a detergent that is subsequently eliminated.
- **Separation of materials** of different density.

WASH

- **Rinse** and remove detergent residue and moisture.
- **Storage.**

Alcamare
International Recycling Group

4

RECYCLING

- **Extrusion** of the processed material and the **HDPE** virgin resin, ensuring that their proportions are correct.
- **Elimination** of possible residues, fine pellets and agglomerates.
- Packaged in 1-ton **super sacks** approx.

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- **Shipping** to distribution centers
- **Product packaging** by the logistics provider ccording to customer needs.

TRANSFORMERS

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PEAD

Product	Melt flow rate (190°/2.16kg)	Density (g/cm³)	PCR Type	% PCR	ESCR² (IGEPAL 100%)
RPR 3A1 NL	0.38	0.955	Natural	30%	1000h
RPR 5A1 WE	0.4	0.955	Natural	50%	118h
RHB006	0.18	0.955	Natural	70%	TBC
RPR 0A2 WE	0.44	0.963	White	100%	10h
RPR 0A2 GY	0.47	0.959	Multicolor	100%	13h

PEBD

Product	Melt flow rate (190°/2.16kg)	Density (g/cm³)	PCR Type	% PCR	Haze
RPL 5C1 NL	1.85	0.921	Natural	50%	7.6%
RPL 5A1 NL	0.6	0.921	Natural	50%	22%
RLF005	1.25	0.927	Natural	100%	18.2%

PP

Product	Melt flow rate (190°/2.16kg)	PCR Type	% PCR
RPH 0E1 NL	2.5	Natural	100%

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