



União da Indústria de Cana-de-Açúcar (UNICA)

Ethanol Summit 2017

Flex Plants

June 26-27, 2017
São Paulo, Brazil

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NOVOZYMES

Novozymes in numbers



6,000+
employees

7,000+
patents

700+
products

25.1%
ROIC

30+
different industries

14,142
sales (mio. DKK)

130
countries

27.9%
EBIT margin

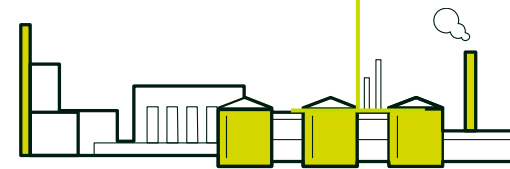
Flex plants

Benefits:

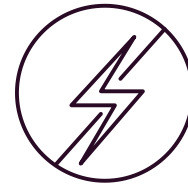
- Continuous revenue generation
- Raw material flexibility
- Cost reduction
- Brazil and Paraguay pioneering Latin America
- Fast ROI
- Profits improvements



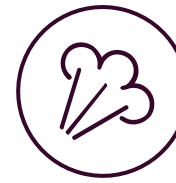
Corn biorefinery



Sugarcane biorefinery



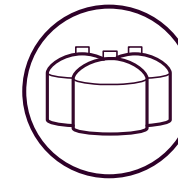
Electricity



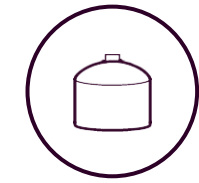
Steam



Distillation



Saccharification and Fermentation



Propagation

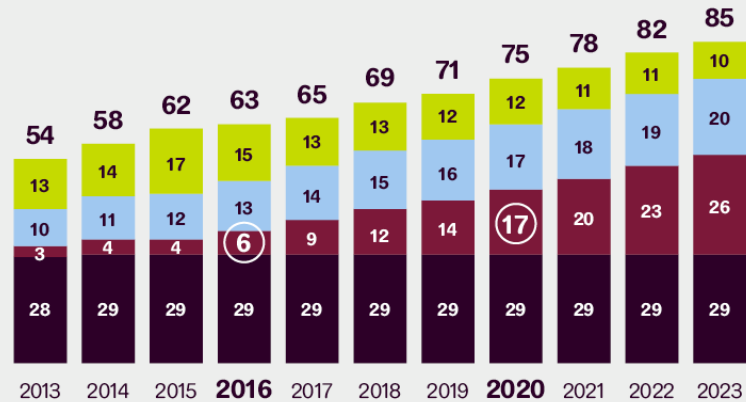
Brazilian expected fuel demand in the coming years

– two possible scenarios

High case

Demand in billion liters

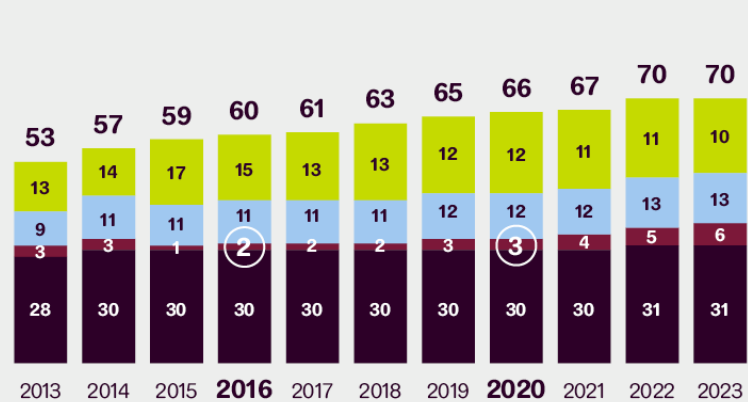
Source: Canaplan



Base case

Demand in billion liters

Source: CNPE



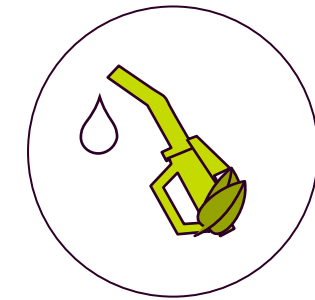
Hydrous ethanol Anhydrous ethanol GAP Gasoline

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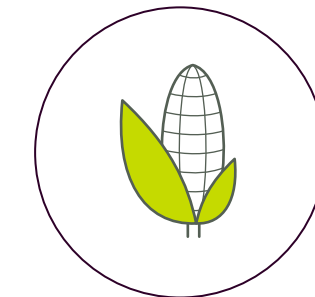
Expected gap, billion liters



20-80 new biofuel plants



+10 mio new flex cars running



Feedstock largely available (corn, sorghum)

Moving forward

- Wide range of feedstocks
- Wide range of processes and technologies
- The demand and closing the gap
- Great opportunity to quickly improve profits



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Rethink Tomorrow