

Sugar-energy industry: key numbers

Number os mills: **360**

Value chain revenue: US\$ 40 billion

Direct employment: + de 700 thousand (~2,3 million indirect)

70.000 sugarcane growers

US\$ 6,1 billion of foreign revenue

#1 renewable source of energy Accountable for **19,1%** of energy consumption

unica

SUGAR





Largest exporter in the World (international Market share 40-50%)

ETHANOL



35 billion liters

2nd world producer

BIOELECTRICITY



27 mil GWh

Energy supply for 12 million households in 1 year

Social-economic development fostered by sugarcane

Impact of an ethanol plant on the region's Gross Domestic Product





Environmental protection provided by producers

46M planted seedlings

7,315 water springs preserved and recovered

No burning as a pre-harvest method

200,000 +
hectares of land alongside streams and
riverbanks protected and recovered

Source: "Accelerated growth of the sugarcane, sugar, and ethanol sectors in Brazil (2000 – 2008): Effects on municipal gross domestic product per capita in the south-central region"



CLIMATE CHANGE GLOBAL WARMING CO2 REDUCTION unica

WE'RE READY

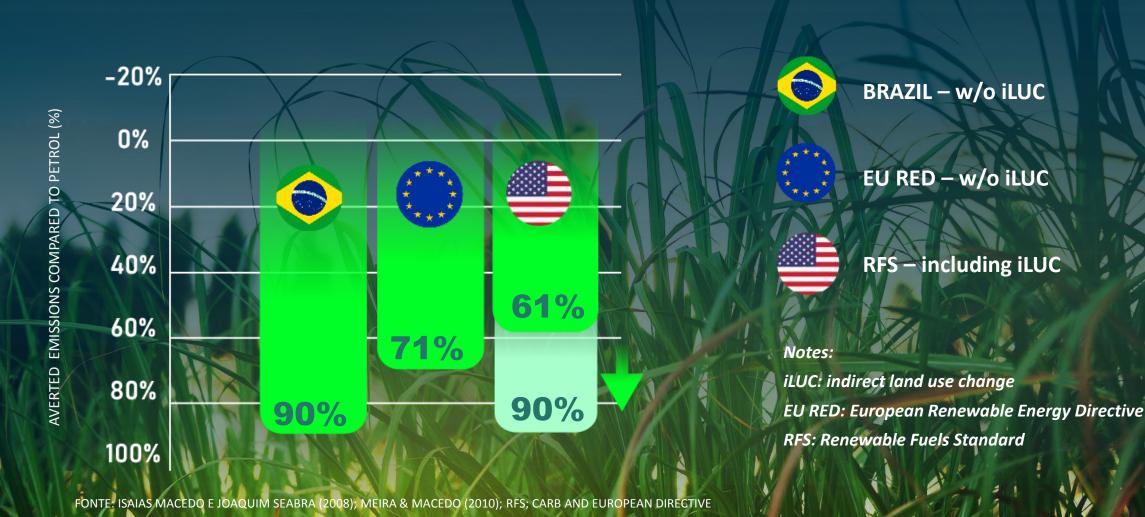


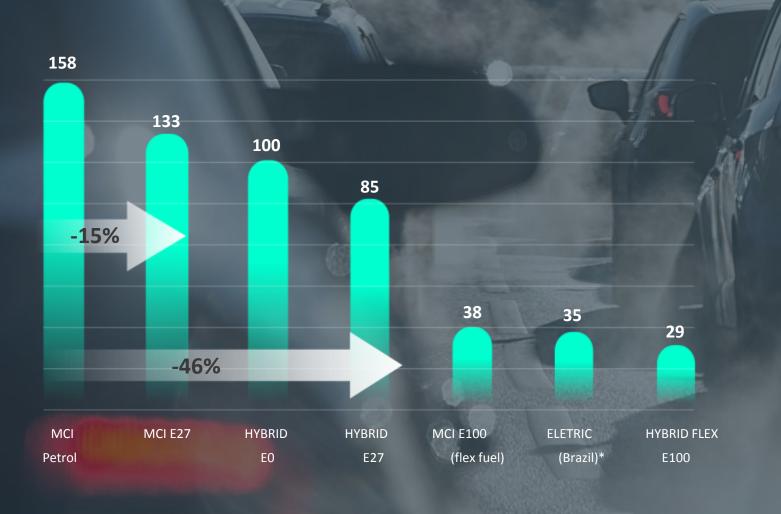




SUGARCANE ETHANOL: GHG REDUCTIONS

(Several methodologies, compared to gasoline)





EMISSIONS PATTERNS gCO₂/km

Source: UNICA (2019). Note: Based on energy consumption and carbon intensity obtained from data provided by CONPET/INMETRO (2019), Toyota (2019), ANP (2019), Balanço Energético Nacional (2019), Eurostat (ano base - 2017) e Ecoinvent 3.5 (2018).





Core principles of Renovabio

Launched in 2017, the National Biofuels Policy (RenovaBio) is a key tool in reducing greenhouse gas emissions and helping Brazil fulfill its commitments under the Paris Climate Agreement. With the expansion of the domestic sustainable biofuels market, from production to utilization of cleaner fuels, RenovaBio suports the substitution of fossil fuels

Reducing GHG emissions target



- National, mandatory, 10-year horizon
- Establishes long-term guidance, creating better landscape for new investments

Recognition of biofuels **benefits**



- Lifecycle analysis: produce more clean energy emitting less GHG
- The more efficient the producer, the more CBios he can issue







FUEL FOR THE FUTURE

BIOGAS

POTENTIAL TO
SUPPLY 93%
OF THE RESIDENTIAL
ELECTRICITY
CONSUMPTION OF
THE STATE OF SÃO
PAULO*

BIOMETHANE

70% OF DIESEL OR 80%
OF NATURAL GAS
CONSUMED IN THE STATE OF
SAO PAULO IN 2018*

E2G

POTENTIAL TO INCREASE UP TO 50% ETHANOL PRODUCTION WITH THE SAME PLANTED AREA

*Using vinace, straw and other residues Source: Instituto de Energia e Ambiente da USP (IEE-USP)







SUSTAINABLE ENERGY AND FOOD FROM BRAZIL TO THE WORLD