OVERVIEW & OUTLOOK: BRAZILIAN SUGARCANE INDUSTRY

Leticia Phillips
Representative, North America

Washington,
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KEY NUMBERS - BRAZILIAN SUGARCANE SECTOR

- **Number of mills**: 413
- **Sugarcane growers:** 70,000
- **Direct employment:** 1.18 million
- **Sector annual revenue:** US$ 28 billion
- **Foreign Revenue (Exports):** US$ 16.2 billion
- **% Energy Matrix:** 18% - 2nd source (behind oil) and 1st source of renewable energy

1st SUGAR PRODUCER IN THE WORLD

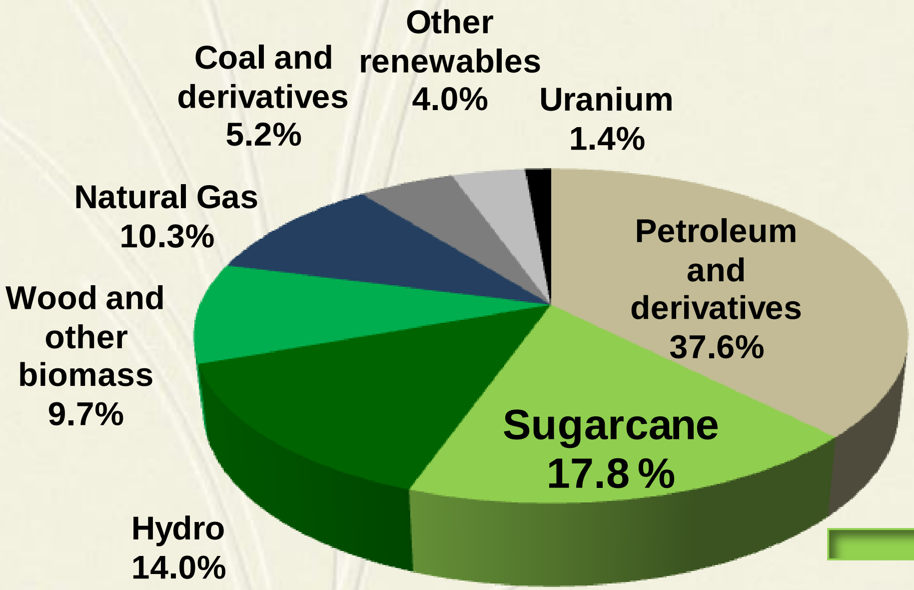
- 25% of world production
- 50% of world exports

2nd ETHANOL PRODUCER IN THE WORLD

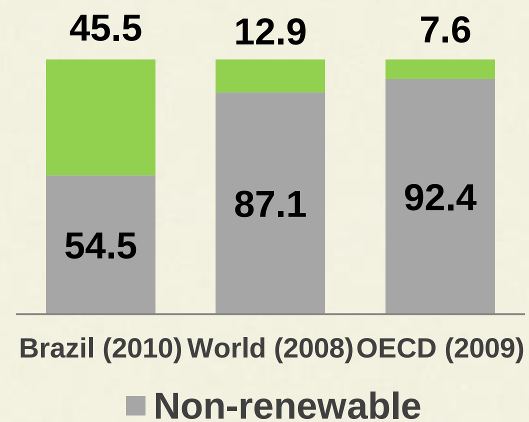
- 20% of world production
- 20% of world exports

Fonte: LMC, F.O.Licht's, Secex, UNICA e Rais.

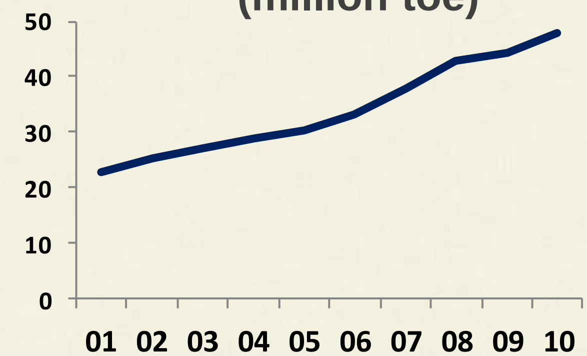
BRAZILIAN ENERGY MATRIX INPUT



World Energy Supply Structure (%)



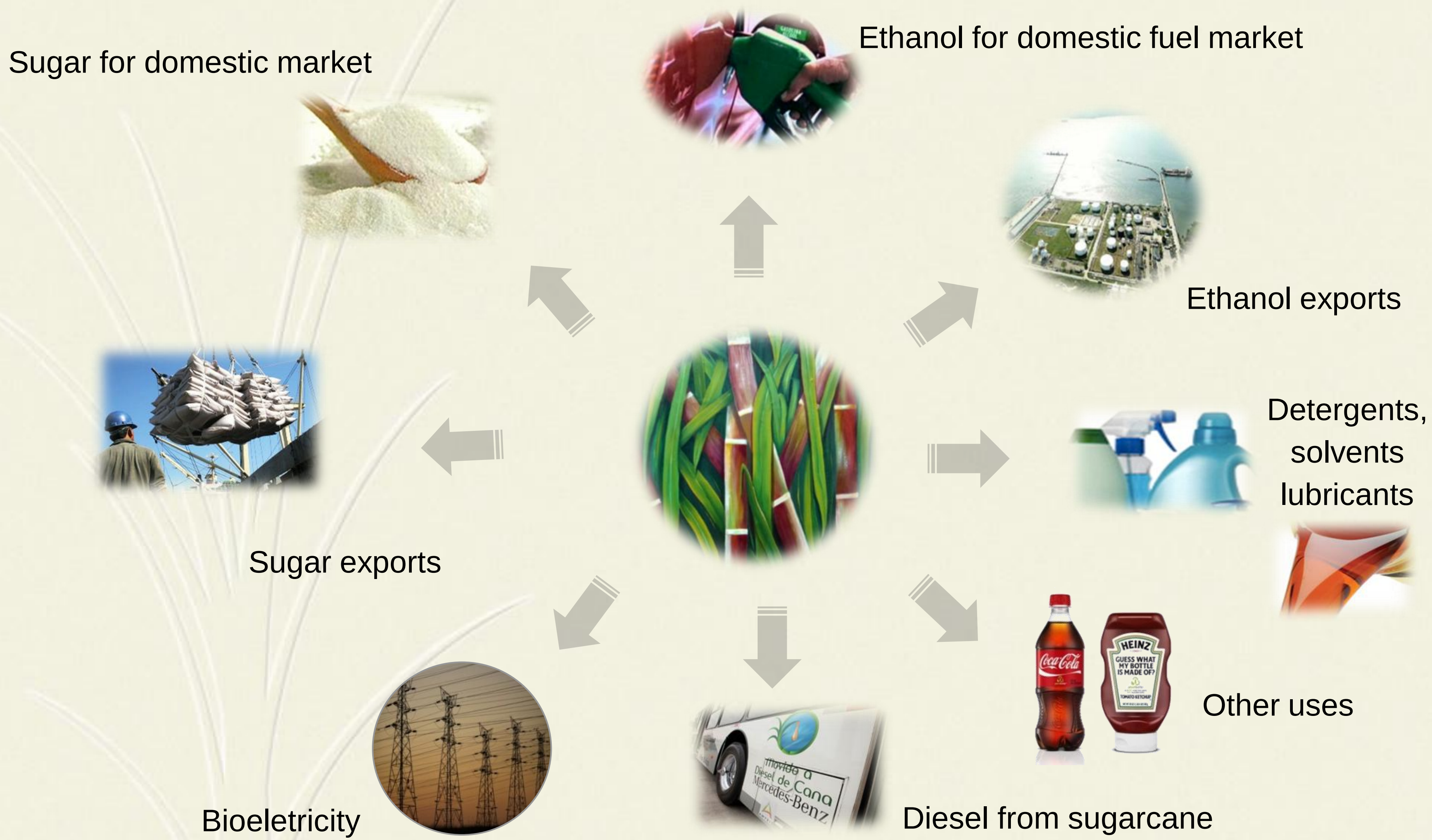
#1 Source of Renewable Energy in BR (million toe)



Toe: tons of oil equivalent

Source: Balanço Energético nacional BEN (2011) and International Energy Agency. Key World Statistics 2010. Elaboration: UNICA

MULTIPLE SUGARCANE USE



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LAND USE IN BRAZIL

*Million Ha**

Total Area	Native Vegetation	Land in Actual Use	Other Uses
851	554	260	38
100%	***65%***	***30%***	***5%***

Conservation Units and ILs
204
24%

Permanent Protected Areas
135
16%

Other Native Vegetation
214
25%

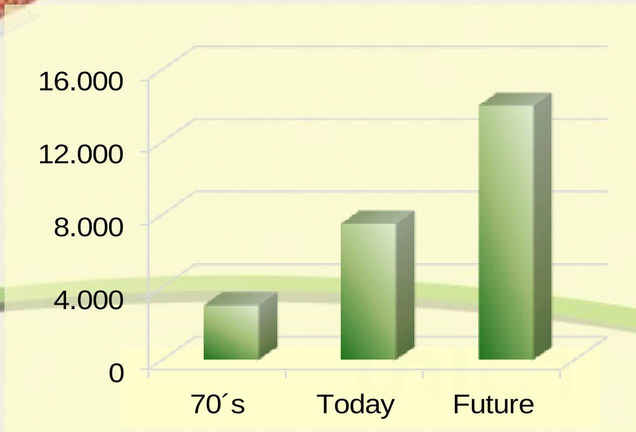
Pastures
198
23%

Crop Land
60
7%

Sugarcane
9.5
1%

Sugarcane
FOR ETHANOL
4.6
0.5%

Ethanol Productivity

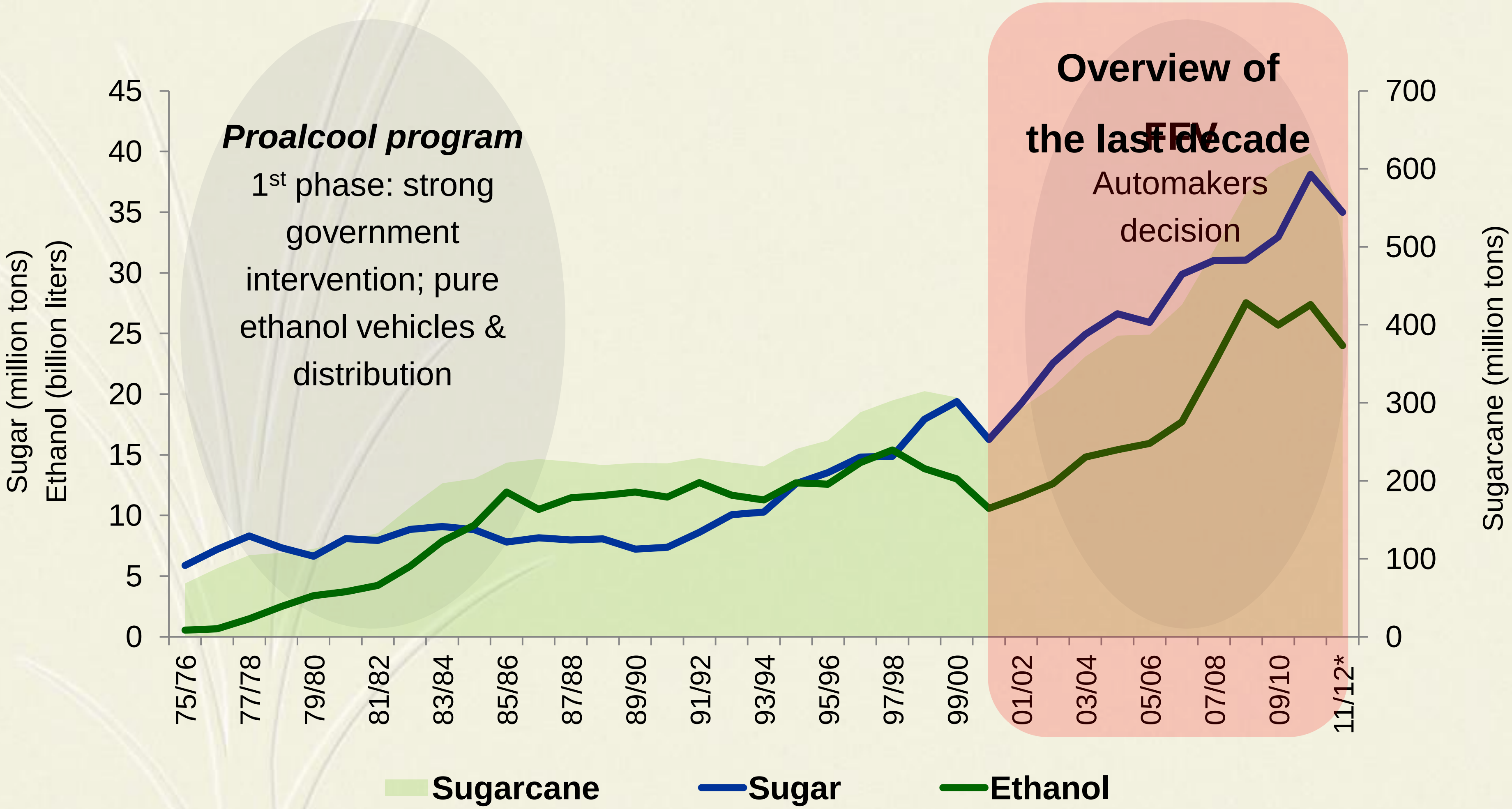


Source: ICONE, Gerd Sparovek, IBGE, MMA, INPE/TerraClass, Embrapa, PAM2010.
Elaboration: Cosan and UNICA.
Note: ILs = Indigenous Lands. Other Native Vegetation include Legal Reserves (RLs)

SUGARCANE AGROECOLOGICAL ZONING IN BRAZIL

1. **Excludes sugarcane production in the most sensitive biomes, e.g. Amazonia and Pantanal.**
2. **Excludes any type of native vegetation for sugarcane expansion, e.g. Cerrados, Campos.**
3. **Feasible areas for sugarcane expansion:** 64.7 m hectares, or 7.5% of the Brazilian territory. Currently 1% of the area is used for sugarcane.

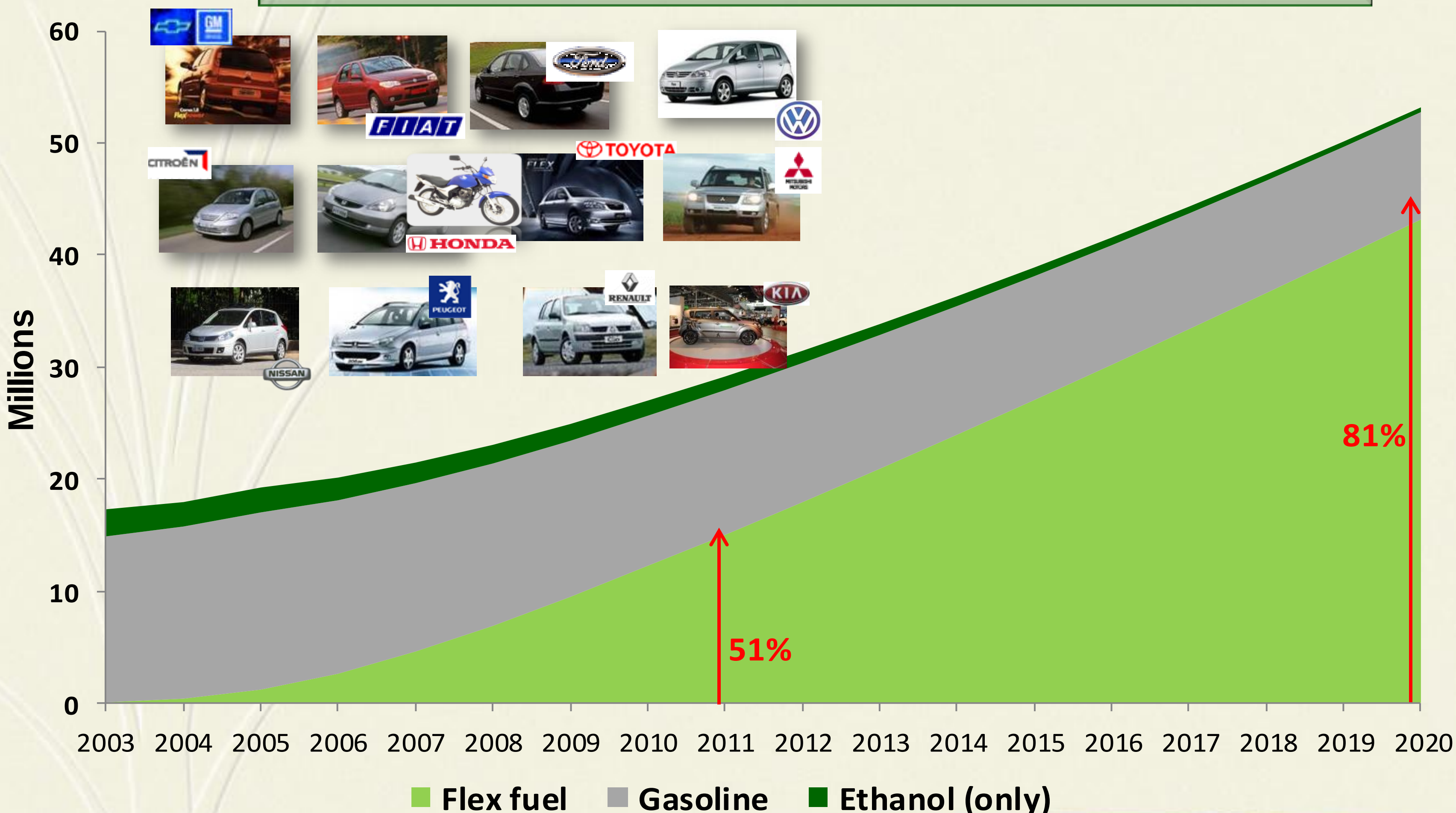
NATIONAL SUGARCANE CRUSHING
SUGAR AND ETHANOL: HISTORICAL OVERVIEW



Source: UNICA and MAPA. Note: 11/12* - estimated data.

NATIONAL LIGHT VEHICLE FLEET

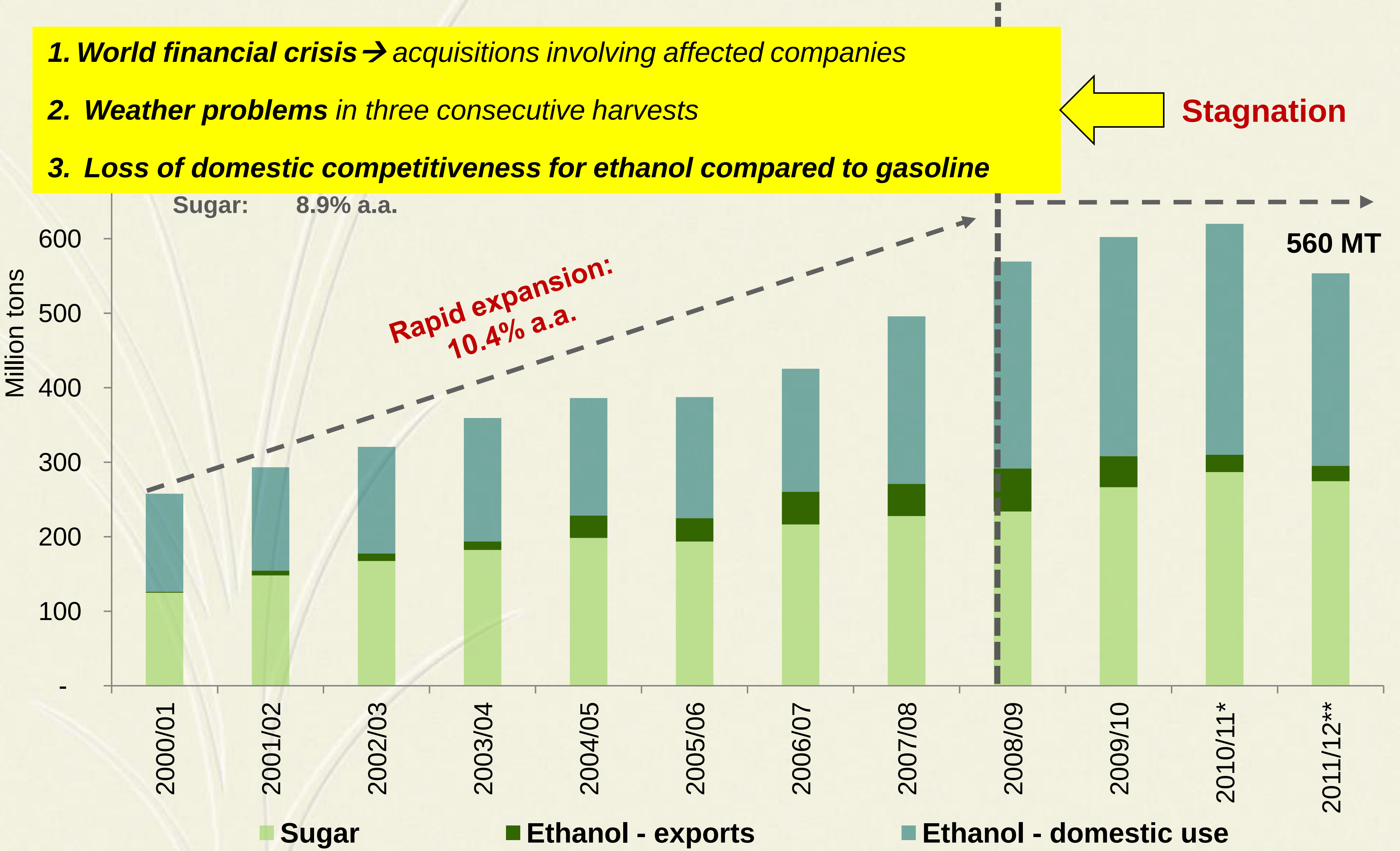
Today, 12 automakers offer over 90 models of flex fuel vehicles, which already account for 50% of the Brazilian light vehicle fleet.



Source: UNICA.

DECADE OVERVIEW

1. ***World financial crisis*** → *acquisitions involving affected companies*
2. ***Weather problems*** *in three consecutive harvests*
3. ***Loss of domestic competitiveness for ethanol compared to gasoline***



Sourcee: UNICA and Ministry of Agriculture,Livestock and Supply. Nota: 11/12 – estimate

POTENTIAL OF CELLULOSIC ETHANOL IN BRAZIL

Conventional

1 hectare

CANE JUICE+ MOLASSES → 1850 G

Conventional+ Cellulose

1 hectare

CANE JUICE+ MOLASSES +BAGASSE+STRAW → 3302 G(+78%) or more

GraalBio

Project in Alagoas 21.6 MG→ Start of Production 2013/14; with bagasse +straw→ approximately + 35% increase in productivity (technology M&G, DSM, Novozymes)

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TECHNOLOGY STATUS

Product	Laboratory	Pilot Plant	Demonstration Plant	Market
Ethanol 1st generation				
Ethanol 2nd generation				
BioHC (Diesel, Jet Fuel etc)				
Butanol 2nd generation				

Commercial scale plants are expected to start operation within next two-three years but it will take close to a decade until production reach significant volumes. Could this time be shortened by better technologies?!

PRODUCTION EVOLUTION IN THE CENTER-SOUTH REGION

IN 07/16/2012

Produtos		ACUMULADA			QUINZENAL		
		2011/12	2012/13	Variação (%)	2011/12	2012/13	Variação (%)
Cana-de-açúcar [1]		218.279	170.561	-21,86%	40.583	42.183	3,94%
Açúcar [1]		11.988	9.326	-22,20%	2.585	2.636	1,95%
Etanol anidro [2]		3.164	2.131	-32,64%	615	675	9,73%
Etanol hidratado [2]		5.560	4.292	-22,81%	1.031	930	-9,81%
Etanol total [2]		8.724	6.423	-26,37%	1.646	1.605	-2,50%
ATR [1]		27.435	20.709	-24,51%	5.518	5.506	-0,21%
ATR/ tonelada de cana [3]		125,69	121,42	-3,40%	135,96	130,53	-4,00%
Mix (%)	açúcar	45,86%	47,26%		49,18%	50,24%	
	etanol	54,14%	52,74%		50,82%	49,76%	
Litros etanol/ tonelada de cana		39,97	37,66	-5,78%	40,57	38,05	-6,20%
Kg açúcar/ tonelada de cana		54,92	54,68	-0,44%	63,71	62,49	-1,91%

Fonte: UNICA. Nota: [1] - mil toneladas; [2] - milhões de litros; [3] - kg de ATR/ tonelada de cana; dados sujeitos a pequenos ajustes.

SALES OF FUEL ETHANOL BY THE CENTER-SOUTH MILLS

Amount in thousand L

Mês	ETANOL ANIDRO			ETANOL HIDRATADO			ETANOL TOTAL		
	2011	2012	Var.(%)	2011	2012	Var.(%)	2011	2012	Var.(%)
Abr	586.495	456.544	*-22,2%*	461.671	796.173	*72,5%*	1.048.166	1.252.717	*19,5%*
Mai	640.474	506.940	*-20,8%*	999.926	882.926	*-11,7%*	1.640.400	1.389.866	*-15,3%*
Jun	622.159	547.841	*-11,9%*	1.217.979	791.518	*-35,0%*	1.840.138	1.339.359	*-27,2%*
Jul*	335.051	252.462	*-24,6%*	559.797	379.765	*-32,2%*	894.848	632.227	*-29,3%*
Acum.na safra	**2.184.179**	**1.763.787**	*-19,2%*	**3.239.373**	**2.850.382**	*-12,0%*	**5.423.552**	**4.614.169**	*-14,9%*

Fonte: UNICA. Nota: as vendas no mercado interno de etanol anidro incluem as importações por produtores e não produtores. "Jul*" refere-se à primeira quinzena de Julho.

FORUM NACIONAL SUCROENERGÉTICO

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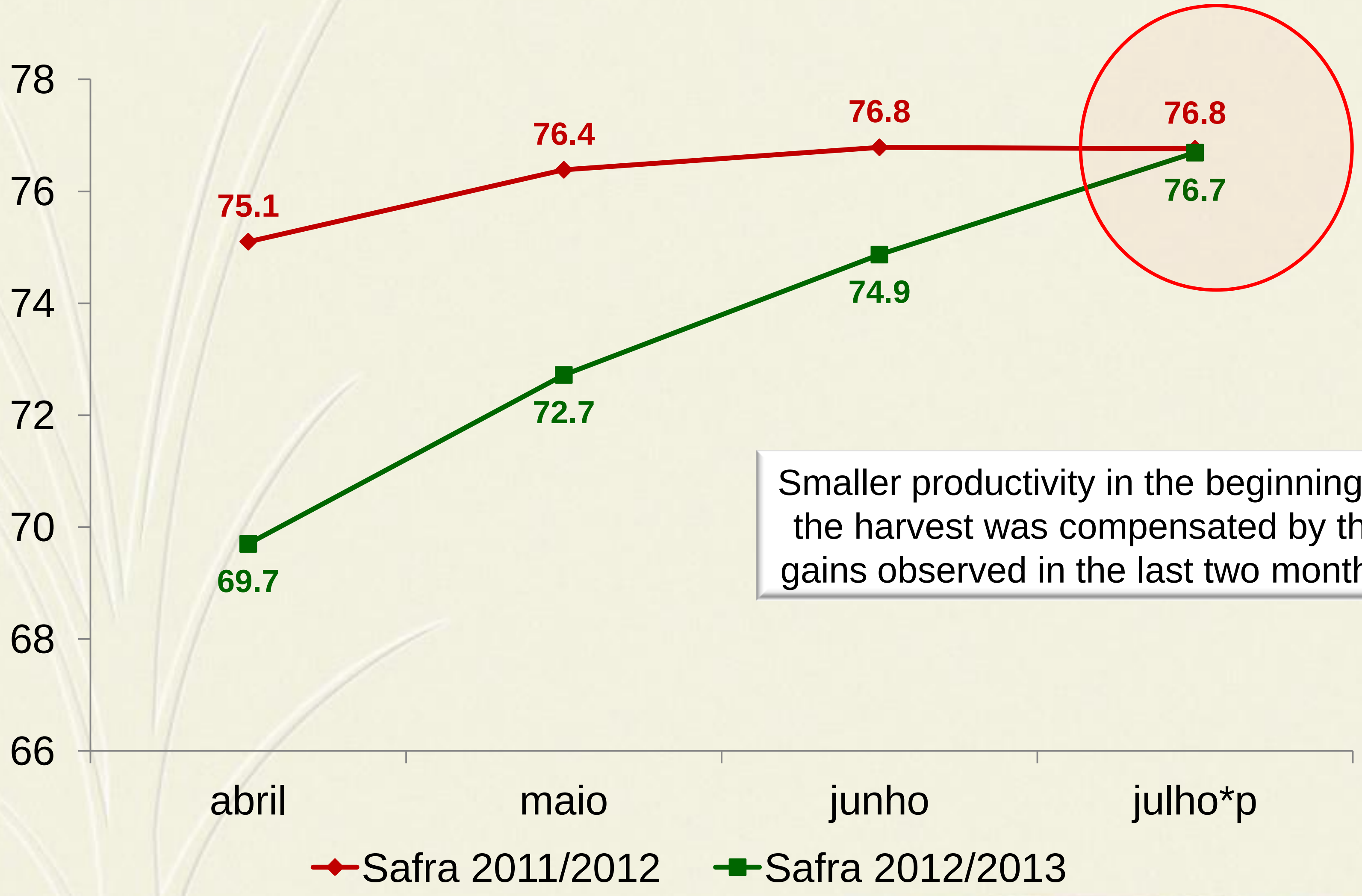
SALES OF ETHANOL FOR EXPORT BY THE CENTER-SOUTH MILLS

Amount in thousand litters

Mês	ETANOL ANIDRO			ETANOL HIDRATADO			ETANOL TOTAL		
	2011	2012	Var.(%)	2011	2012	Var.(%)	2011	2012	Var.(%)
Abr	793	53.329	*6625,0%*	15.706	18.514	*17,9%*	16.499	71.843	*335,4%*
Mai	37.655	119.235	*216,7%*	70.559	32.559	*-53,9%*	108.214	151.794	*40,3%*
Jun	39.000	187.788	*381,5%*	189.404	43.215	*-77,2%*	228.404	231.003	*1,1%*
Jul*	40.861	112.642	*175,7%*	113.196	61.557	*-45,6%*	154.057	174.199	*13,1%*
Acum.na safra	**118.309**	**472.994**	*299,8%*	**388.865**	**155.845**	*-59,9%*	**507.174**	**628.839**	*24,0%*

Fonte: UNICA. Nota: "Jul*" refere-se à primeira quinzena de Julho.

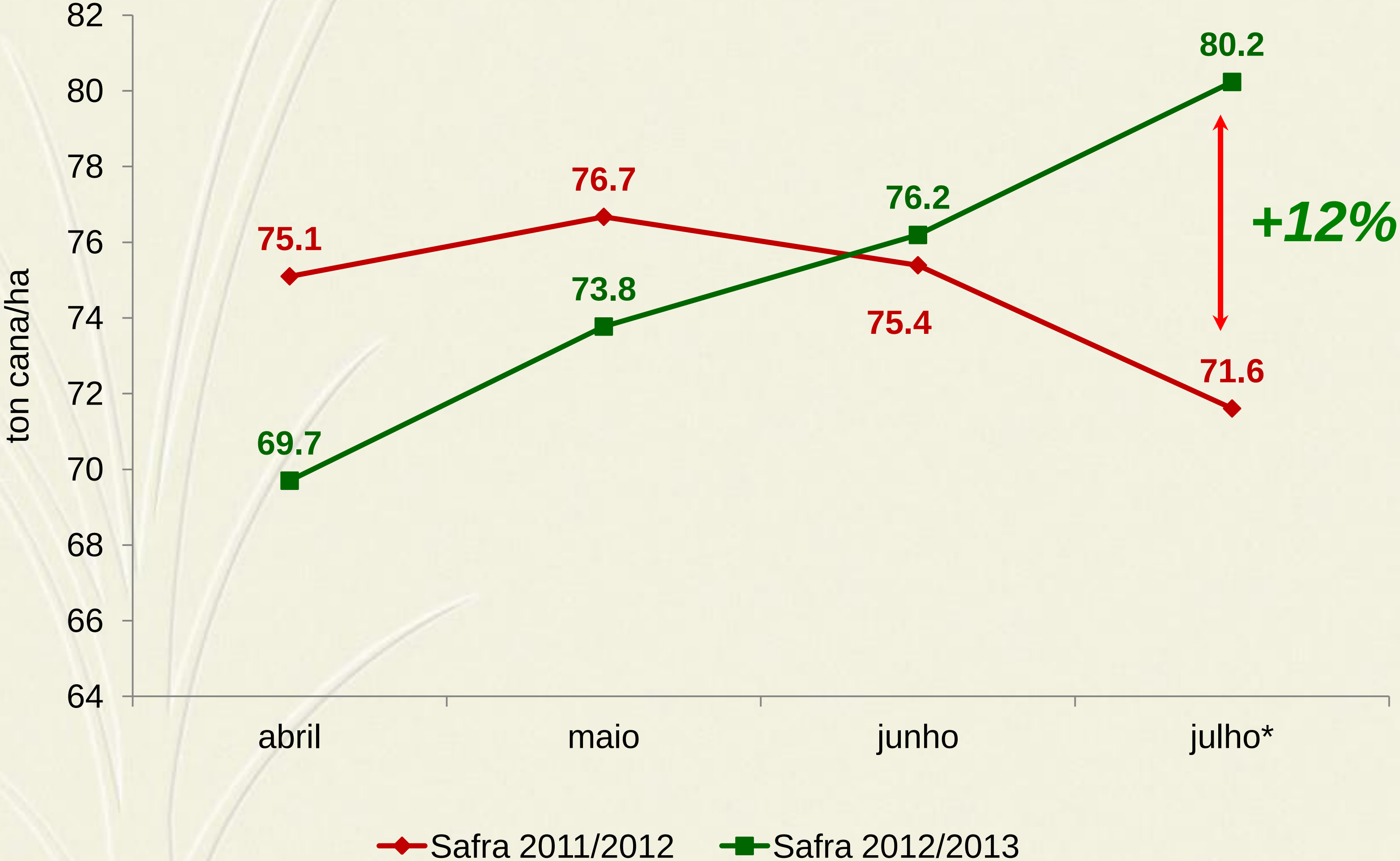
TOTAL AGRICULTURAL PRODUCTIVITY OF THE CENTER-SOUTH CANE FIELS



Smaller productivity in the beginning of the harvest was compensated by the gains observed in the last two months.

Fonte: CTC. Elaboração: UNICA. Nota: "julho* "os valores da produtividade refere-se ao levantamento realizado nos primeiros 15 dias do mês.

MONTHLY AGRICULTURAL PRODUCTIVITY OF THE CENTER-SOUTH CANE FIELDS



Fonte: CTC. Elaboração: UNICA. Nota: "julho" os valores da produtividade refere-se ao levantamento realizado nos primeiros 15 dias do mês.

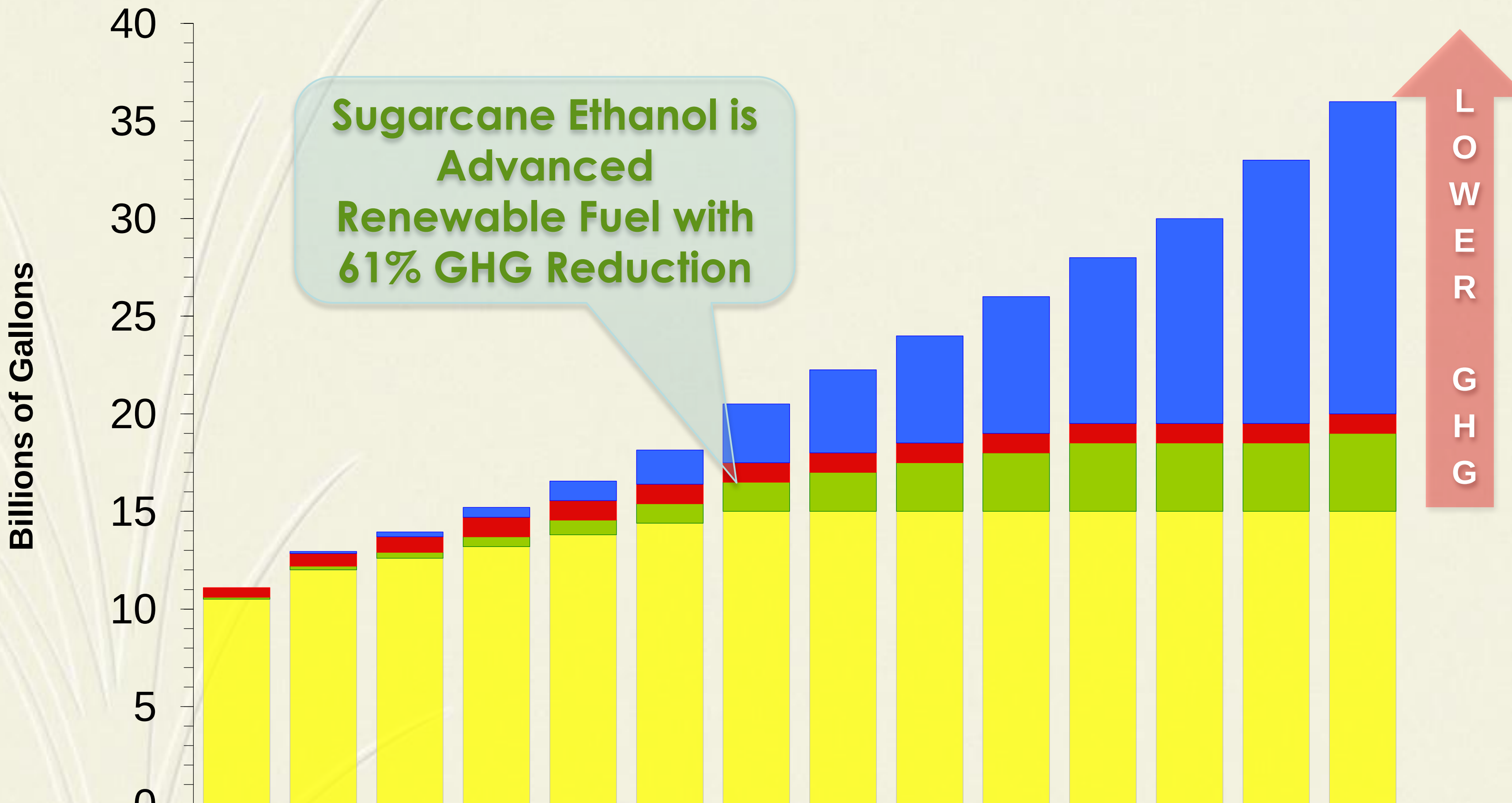
OUTLOOK OF SUPPLY AND DEMAND OF ETHANOL FOR THE 2012/2013 HARVEST (APRIL/MARCH)

Bilhões de litros

Produtos	2011/12	2012/13	Variação Vol.	Variação %
DEMANDA CICLO OTTO (exceto GNV)				
Volume em gasolina eq.	44,66	46,98	*2,32*	*5,2%*
CONSUMO DE ETANOL				
Etanol anidro	8,37	7,63	*-0,74*	*-8,8%*
Etanol hidratado	11,26	12,14	*0,88*	*7,8%*
Etanol total	19,63	19,77	*0,14*	*0,7%*
CONSUMO DE GASOLINA				
Gasolina C	36,79	38,48	*1,69*	*4,6%*
Gasolina A	28,42	30,85	*2,42*	*8,5%*

Fonte: UNICA.

U.S. RENEWABLE FUELS STANDARD (RFS-2)

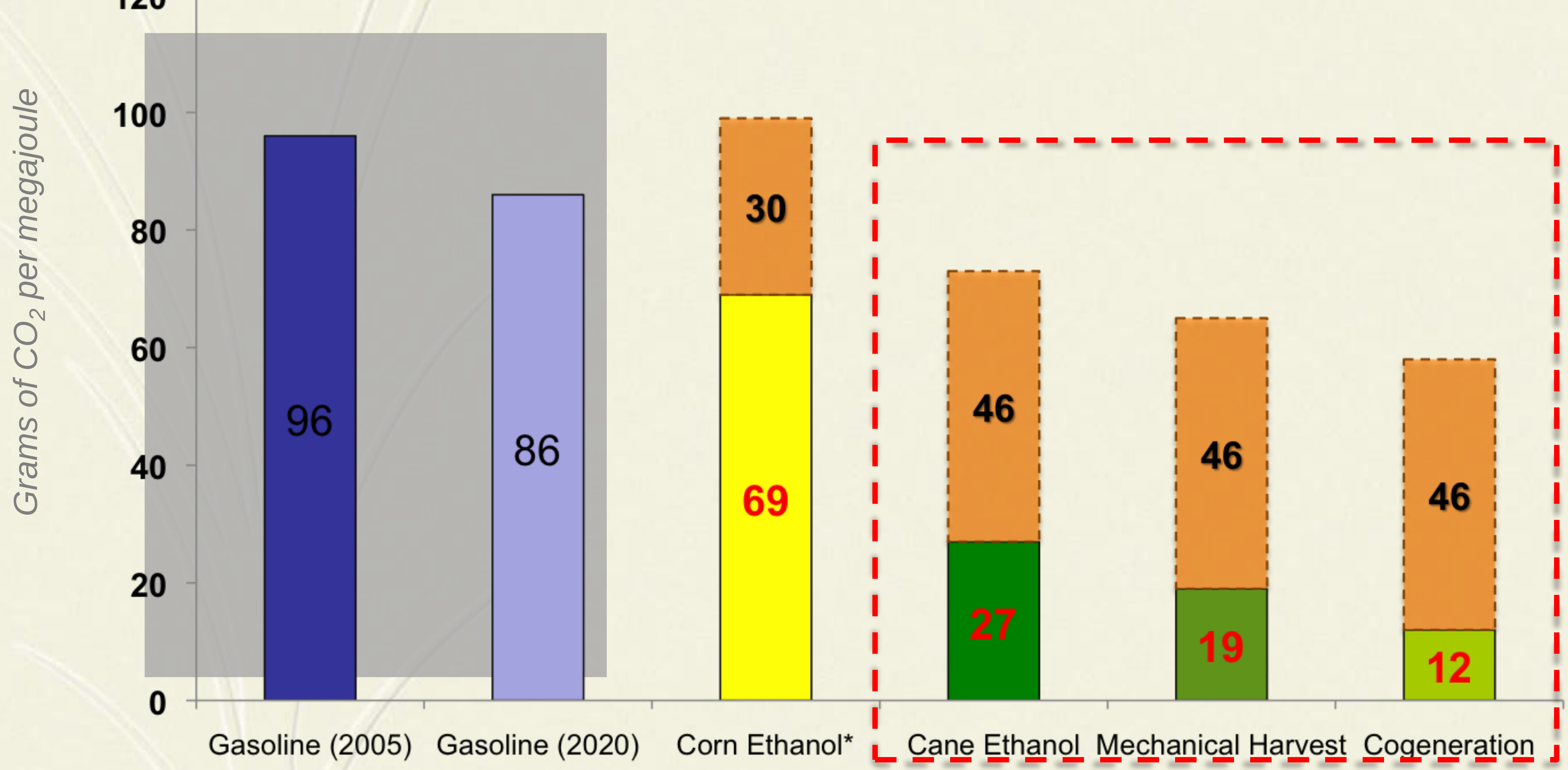


	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Celulosic Advanced		0.10	0.25	0.50	1.00	1.75	3.00	4.25	5.50	7.00	8.50	10.50	13.50	16.00
Biomass-based Diesel	0.50	0.65	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Non-celulosic Advanced	0.10	0.20	0.30	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	3.50	3.50	4.00
Conventional Biofuels	10.50	12.00	12.60	13.20	13.80	14.40	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00

Source: EISA of 2008, U.S. Environmental Protection Agency (RFS-2) Final Rule.

LCFS WITH “INDIRECT LAND USE” PENALTY

Despite Modeling Errors, Sugarcane Ethanol is Lowest Carbon Liquid Fuel



Fonte: California Air Resources Board’s Low Carbon Fuel Standard.

Thank you

www.unica.com.br/en

www.sugarcane.org