

Jaciara Bioenergia - Mato Grosso The best of corn in the São Lourenço Valley

O melhor do milho na região do Vale do São Lourenço



Millenium Bioenergia S.A.

Corn Mills

The evolution of the biofuel sector

A evolução do setor de biocombustíveis

Inovating to lead

Inovar para liderar

About Millenium Bioenergia S.A.



Millenium Bioenergia is an integrator of technologies and projects in the sugar and ethanol sector that brings together several leading companies and professionals with well-known industry expertise, capitalizing on synergies around its developments in order to structure the best projects and businesses in the area of biofuels.

The company was created to meet the growing needs of the biofuels market in Brazil, promoting, developing and managing projects of plants for the simultaneous production of ethanol from maize, sorghum and sugarcane, thus eliminating the fall in productivity in the off-season.

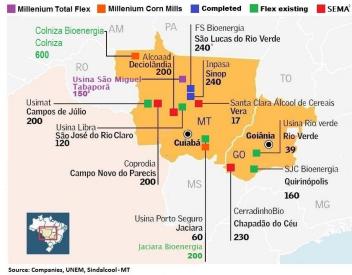
Seeking full efficiency, Millenium Bioenergia bases its projects on pillars that form an innovative business model. The company operates in a multiregional way through the strategic location of the projects and uses established technologies that integrate the value chain, ranging from the use of natural resources to agricultural and industrial residues for energy generation, culminating in a differentiated business process, safer and more effective for the marketing and distribution of products.

Millenium Corn Mills model - Differentials

- √ >10-year take-or-pay contracts for Ethanol
- √ >10-year take-or-pay contracts for DDGS
- ✓ Best technologies for ethanol production
- ✓ Best technology for DDGS production <u>Link video</u>
- ✓ Best technology for oil extraction
- ✓ Best enzymatic technology
- ✓ Best solution in steam generation
- ✓ Best cogeneration solution
- ✓ Best solution in electrical systems
- ✓ Best carbon recovery technology (CO₂)
- ✓ Best technology for vinasse treatment

Ethanol Plants of Corn in Brazil

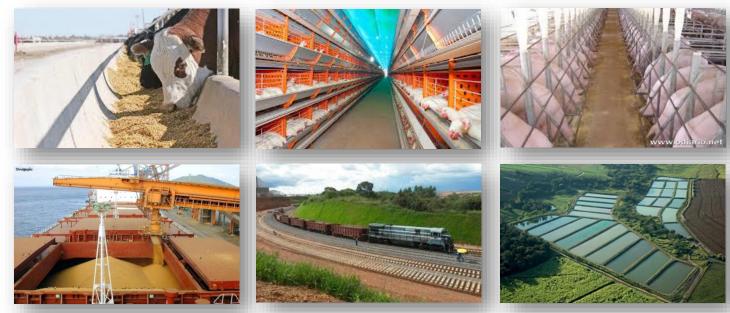
Location and annual capacity (million liters)



First plant 100% corn ethanol in Brazil
 First plant 100% corn ethanol in Brazil

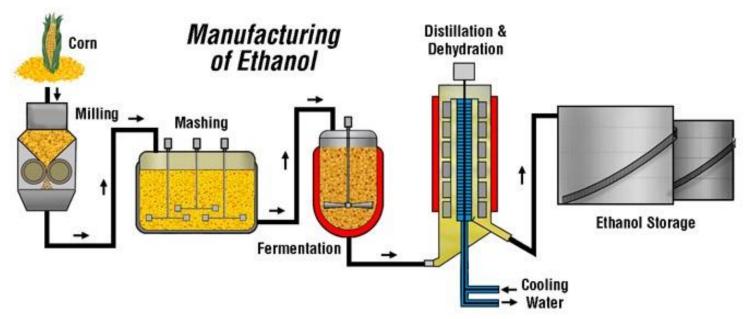
News: Initiated work collaboration between Millenium and SEDEC Link - Mayor of Jaciara - MT sanctions law that allows donation of area for company Link

In addition to CHS contracts (10 years) for ethanol and DDGS High Protein (export) there is great potential to provide DDGS High Fiber for food cattle in any part of the state of Mato Grosso



Millenium Bio - Corn Mills and Full Flex projects

Project	City	State	Country	Start	Etanol/year	DDGS	CAPEX	Net Revenue	EBITDA	Net income average	IRR	Pay-back	
					m³/year	ton/year	(U\$)	(U\$)	MM	(U\$)		years	
Usina Jaciara Bioenergia	Jaciara	MT	BRA	2021	206,000	149,000	170,000,000	136,000,000	61,0	28,000	22%	3,8	
Usina São Miguel Total Flex*	Tabaporã	MT	BRA	2021	206,000	149,000	170,000,000	132,000,000	64,0	32,000	23%	3,6	
* with Installation License - LI						Total	340,000,000						



3D Mockup - Corn Mill Module

Link

Jaciara Bioenergia Project











Jaciara Bioenergia Project - Estimates

Net Selling Prices of Products in Mato Grosso Average Esalq* 24 months *Esalq = Brazilian index equivalent to Platts				
Hydrous ethanol	U\$ 454 / m³			
DDGS (kg) - 38% Protein	U\$ 171 / ton			
Bio-oil (I)	U\$ 0,50 / lt			
Woodchip	U\$ 36 / ton			
Corn bag (60kg)	U\$ 6,1 / bag			
CO ₂	U\$ 0 / ton			
Energy	U\$ 48 / MW			
Energy - Distributed Generation	U\$ 0/MW			

2.10.87	σ γ σγ	J
Fhase I 600.000 l/da	у	
Corn milling (ton)	487.512	2 yea
CAPEX (industrial + floating capital)	U\$ 170,000,000*	\rightarrow
SOURCES		
Financing	U\$ 170,000,000	
		-

SOURCES	
Financing	U\$ 170,000,000
Hydrous Ethanol	U\$ 90.823.972
DDGS 35% Protein	U\$ 26.183.942
Bio-oil	U\$ 3.655.111
Energy	U\$ 3.123.824
(=) Net operating revenue	U\$ 123.786.849
(-) Woodchip Cost	-U\$ 9.203.033
(-) Cost of corn	-U\$ 47.733.760
(-) Industrial + Administrative Cost	-U\$ 17.132.565
(=) EBITDA (Operating profit)	U\$ 47.717.791
(-) Depreciation	-U\$ 13.600.000
(-) Financial expenses	-U\$ 9.520.000
(=) EBIT	U\$ 24.597.791
(-) IT/CSLL	-U\$ 8.363.249
(=) Net Earnings	U\$ 16.234.542
IRR	17,5%
Market Value (7 x EBITDA)	U\$ 334.024.537
DEBT/EBITDA	2,8
Pay-back (years)	4,7

CORN PRODUCTIVIT	Υ
Hydrous etanol (It / ton)	410
DDGS (kg / ton) 35% Protein	318
Bio-oil (lt / ton)	15
ANNUAL PRODUCTION (Pha	ise I)
Hydrated Ethanol (m³ / year)	200.000
DDGS 35% Protein (ton / year)	153.000
Energy (MWh / year)	45.508
Bio-oil (ton / year)	7.313

	Energy (MWh / year)	45.50
	Bio-oil (ton / year)	7.313
	Fhase II 1.200.000 I/day	
2 year	975.024	
\longrightarrow	U\$ 297.619.000	
	U\$ 247,573,000	
	U\$ 181.647.944 U\$ 52.367.883	
	U\$ 7.310.222	
	U\$ 6.247.648	
	U\$ 247.573.697	
	-U\$ 18.406.065 -U\$ 99.466.921	
2 year	-U\$ 26.650.656	
—	U\$ 103.050.055	
,	-U\$ 23.809.524	
	-U\$ 14.285.714	
	U\$ 64.954.817	
	-U\$ 22.084.638	
	U\$ 42.870.179	
	22,4%	
	U\$ 721.350.387	
	2,3	
	4,4	

Technical supporters of Millenium Bio



DEVELOPMENT

Entrepreneur - Specialist in biofuels pioneer in the design of the TOTAL FLEX model to produce cane and corn ethanol in the same site.

Eduardo Lima - Executive Director 55 19 9 9675 8527



COMMERCIALIZATION

Offtake - Largest US grain cooperative, the world's largest DDGS exporter. Corn offtake and take-or-pay contracts for ethanol and DDGS.

Max Thomasson - Global Director +1 651 355 8524

ENGINEERING

EPC - Projects and builds projects around the world. Engineering, manufacturing, construction. maintenance. Responsible for the EPC of projects in Brazil and abroad.

Luciano Tavares - Sales Manager +55 9 7660 9177



OWNER ENGINEERING

Construction Management - One of the largest construction managers and manager of US construction programs, will manage the projects in Brazil and abroad. Marcelo Hermman - Director +55 3139 8000

CERTIFICATION

RISK MANAGEMENT



FLUOR.

Insurance and Compliance - Risk specialist, the world's largest insurance broker. It develops programs of Guarantee and Compliance of the Projects. Wellington Zanardi - Senior VP +55 11 9 9939 9825



Certification -World leader in inspection and certifications. Certify ethanol, DDGS and Carbon Gas. Alexandre Marreco - Business +55 11 9 4266 7792

TECHNOLOGY AND PROCESSES



Technology - Number 1 in technology for ethanol production in Brazil, developed the StarchCane® process.

Alexandre Godoy - Director +55 19 2105 6100



Distillery - Specialist in engineering, manufacturing, assembly, equipment and services for production, distillery, vinasse concentrator, etc. Hubert Elias - Director +55 16 9 8237 2300



Separation System - world leader in the supply of Decanter, Tricanter, Sedicanter® and Sorticanter® Centrifuges.

Daniel Soboleski - Director +55 19 9 9623 5253



Drying System - specializes in the global supply of dehydration and drying solutions for the ethanol industry. Steen Hedetoft - Commercial +55 19 9 9939 5655

ENZYMES



Enzymatic Process - World Enzymes Specialist, DuPont FermaSure® Technology

Mario Cacho - Director Biorefineries +55 94559 0795



CO2 Recovery - Manufacturer of equipment and one of the world's largest carbon dioxide recovery Marcelo Rampazzo - Manager +55 11 9 8967 1801

STEAM GENERATION

WASTE RECOVERY

ELECTRICAL SYSTEMS. ENERGY GENERATION AND AUTOMATION



Energy and Automation - Specialist in cogeneration, will supply the energy solution and "Shared O & M" Automation 4.0

Roberto Camargo - Menager - +55 11 9 9901-7165



Boilers - Largest manufacturer of boilers for steam generation, licensed by Babcock & Wilcox in Latin America. It will provide the steam generating solution. Marco Zanato - Commercial - +55 16 9 9123 6141

ENVIRONMENT

TRANSMISSION AND CONNECTION STUDIES



Electrical Projects - selectivity, safety, access opinion, transmission lines and power substations. Eng. Luciano Moreira - Manager +55 31 9 8369 6270



Environment - Develops studies and environmental projects for renewable energy projects. Sandro Andreani - Technical Director - +65 9 9982 4040

FINANCIAL ADVISORY



Financial Advisory - structured finance strategy, structuring of guarantees, Project Finance and M & A. Renato Sucupira - Director +55 11 9 9508 5632



Agribusiness Strategy - The largest agribusiness consultancy, present in several countries, will establish quidelines for market action.

AGRIBUSINESS STRATEGY

Guilherme Nastari - +55 11 9 8777 0700

PEOPLE MANAGEMENT



Management of Careers - Specialized in the management and development of people, careers and societies

Rogério Bruno - Manager +55 11 94140 5298



Legal Advisor - Specialized in agribusiness, works in cooperation with Baker McKenzie who also represents us abroad.

LEGAL ADVISORY

Alberto Mori and Álvaro Galo +55 11 3048 6832

REGIONAL COMMUNICATION



Communication and MKT - A major agencies of the State of Mato Grosso, responsible for the state marketing plan.

Adel Malouf - Director +55 65 99972 6224



Press Office - Leading global public relations agency specializing in protecting brands and reputations. Débora Maturana - Manager +55 11 3066 7779

GLOBAL COMMUNICATION

Printed in January / 2020 | Impresso em Janeiro de 2020

Updated Cash Flow - 600 thousand liters/day

ASSUMPTION	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
sugarcane crushing / year	0	0	0	0	0	0
Corn grinding t / year	0	486.780	486.780	486.780	486.780	486.780
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Produced volumes						
Cane Hydrous Ethanol (m²)	0	0	0	0	0	0
Sugar (t)	0	0	0	0	0	0
Corn Anydrous Ethanol (m²)	0	199.580	199.580	199.580	199.580	199.580
DDGS (kg) - 18-20% Protein	0	0	0	0	0	0
DDGS (kg) - 36% Protein	0	154.309	154.309	154.309	154.309	154.309
Bio Oil	0	7.302	7.302	7.302	7.302	7.302
CO2	0	151.170	151.170	151.170	151.170	151.170
Ration	0	0	0	0	0	0
Biofertilizers (t)	0	0	0	0	0	0
Exported Energy (mWh/year)	0	65.510	65.510	65.510	65.510	65.510
Sale Prices (PVU)						
Anydrous Ethanol (\$/ton)	0,45	0,45	0,45	0,45	0,45	0,45
Sugar (\$/t)	310,57	310,57	310,57	310,57	310,57	310,57
Corn Ethanol Hydrous (\$/I)	0,42	0,42	0,42	0,42	0,42	0,42
DDGS (kg) - 18-20% protein (\$/t)	94,73	94,73	94,73	94,73	94,73	94,73
DDGS (kg) - 36% protein (\$/t)	170,51	170,51	170,51	170,51	170,51	170,51
Bio-Oil (\$/I)	477,11	477,11	477,11	477,11	477,11	477,11
CO2 (\$1kg)	0,00	0,00	0,00	0,00	0,00	0,00
Ration (\$/kg)	0,00	0,00	0,00	0,00	0,00	0,00
Organic fertilizer (\$/t)	23,81	23,81	23,81	23,81	23,81	23,81
Energy (\$/mWh)	47,62	47,62	47,62	47,62	47,62	47,62
TOTAL NET REVENUE (\$ THOUSAND)	Ω	123.601	<u>123.601</u>	123.601	<u>123.601</u>	<u>123.601</u>
Cane Hydrous Ethanol	Ω	Ω	Ω	Ω	Ω	Ω
White Sugar	Ω	Ω	Ω	Ω	Ω	Ω
Anydrous Corn Ethanol	Ω	<u>90.688</u>	<u>90.688</u>	<u>90.688</u>	90.688	90.688
DDGS (kg) - 18-20% Protein	Ω	Ω	Ω	Ω	Ω	Ω
DDGS (kg) - 36% Protein	Ω	26.311	26.311	26.311	26.311	26.311
Bio-Oil	Ω	<u>3.484</u>	<u>3.484</u>	<u>3.484</u>	3.484	3.484
CO2	Ω	Ω	Ω	Ω	Ω	Ω
Ration	Ω	Ω	Ω	Ω	Ω	Ω
Biofertilizer	Ω	Ω	Ω	Ω	Ω	Ω
Energy	Ω	3.120	<u>3.120</u>	3.120	3.120	3.120

Prices on theadmil	
Corn placed on the treadmill	\$ 06 /bag
Cane placed on the treadmill	\$ 23 /ton

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CAPEX JACIARA BIOENERGIA MT - 600 TLPD (\$ Thousand)	170.008
Financing	136.007
Equity Investidor	34.002
Project Internal Rate of Return (IRR)	17%
Internal Rate of Investor Return (IRR)	29%
Pay-Back	4,7 anos

\$/thousands	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
(=) Net Revenues	0	0	123.601	123.601	123.601	123.601
(-) Cost of Goods Sold (COGS)	0	-293	-66.431	-66.431	-66.431	-66.431
(-)Cost raw material: Sugar cane	0	0	0	0	0	0
(-) Cost raw material: Corn	0	0	-49.465	-49.465	-49.465	-49.465
(-)Cost raw material: Wood chips	0	0	-9.195	-9.195	-9.195	-9.195
(-) Industrial Cost	0	-293	-7.771	-7.771	-7.771	-7.771
(=)OperatingIncome	0	-293	57.170	57.170	57.170	57.170
(-) Administrative costs	-595	-1.208	-3.581	-3.581	-3.581	-3.581
(-) Management + Profit (1% of net sales)	0	0	-1.236	-1.236	-1.236	-1.236
(-) Maintenance Expense	0	0	-966	-1.656	-1.656	-1.656
(-) Investor Expense	0	0	-9.520	-9.520	-9.520	-9.520
(-)Royalties	0	0	-618	-618	-618	-618
(=)EBITDA	-595	-1.501	41.249	40.559	40.559	40.559
EBITDA/ Net Revenues	0	0	33%	33%	33%	33%
(-) Depreciation Industry	0	0	-16,179	-16, 179	-16, 179	-16.179
(=)EBIT	-595	-1.501	25.070	24.380	24.380	24.380
(-)Financial expense	-2.939	-5.908	-11.503	-10.597	-9.690	-8.783
(=)PretaxIncome	-3.534	-7.409	13.566	13.783	14.690	15.597
(-) Income Tax / Social Contribution on Net Income	1.202	2.519	-4.613	-4.686	-4.995	-5.303
(=) Net Income	-2.333	-4.890	8.954	9.097	9.695	10.294
Profitability	0%	0%	7%	7%	8%	8%
(+)Depreciation	0	0	16.179	16.179	16.179	16.179
(=)Operating Cash Flow	-2.333	-4.890	25.133	25.276	25.875	26.473
(-)investments	-91.256	-78.157	0	0	0	0
(+)Equity	34.002	0	0	0	0	0
(+)New Financing	73.481	62.526	0	0	0	0
(-)Depreciation Financing	0	0	-7.167	-7.740	-8.359	-9.028
(=)Project Free Cash Flow	-93.589	-83.047	25.133	25.276	25.875	26.473
(=)Free Cash Flow Accumulated Project	-93.589	-176.636	-151.503	-126.227	-100.352	-73.879
Dividends%	0%	0%	40%	40%	40%	40%
Dividends Investor	0	0	3.581	3.639	3.878	4.117
(=) Free Cash Flow Investor	-34.002	0	13.102	13.159	13.399	13.638
(=) Free Cash Flow Accumulated Investor	-34.002	-34.002	-20.900	-7.740	5.658	19.296
Contributions	107.482	62.526	0	0	0	0
Сарех	-91.256	-78.157	0	0	0	0
Operating Cash Generation	-2.333	-4.890	25.133	25.276	25.875	26.473
Depreciation	0	0	-7.167	-7.740	-8.359	-9.028
Dividendos	0	0	-3,581	-3,639	-3.878	-4.117
Cash Balance	13.894	-20.522	14.385	13.897	13.637	13.327
Accumulated Cash	13.894	-6.628	7.757	21.654	35.291	48.618

Net Revenues (\$ Thousand)	123.601
EBITDA	50.079
Average Net Income	19.635
Debt / EBITDA	2,72
Net Present Value (\$ Thousand)	\$167.678
Market Value (7 x EBITDA)	\$350.556





Legal & Compliance Trench Rossi Watanabe. Baker McKenzie.

Project management Hill International

Key companies





















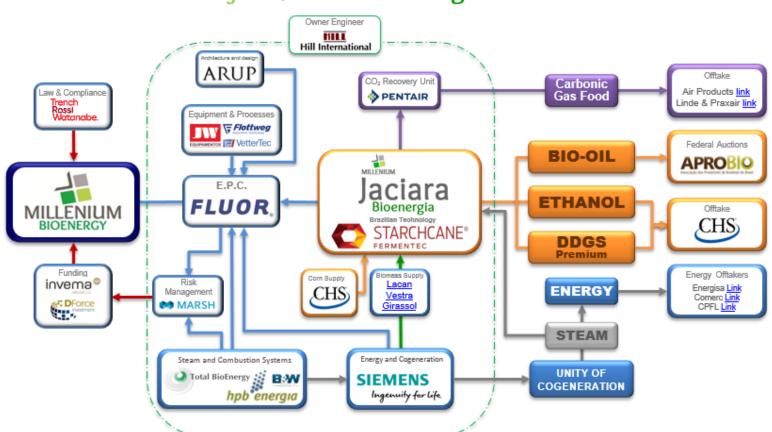






Certifier SGS

Projeto Jaciara Bioenergia



RING-ROAD HIGHWAYFUTURE

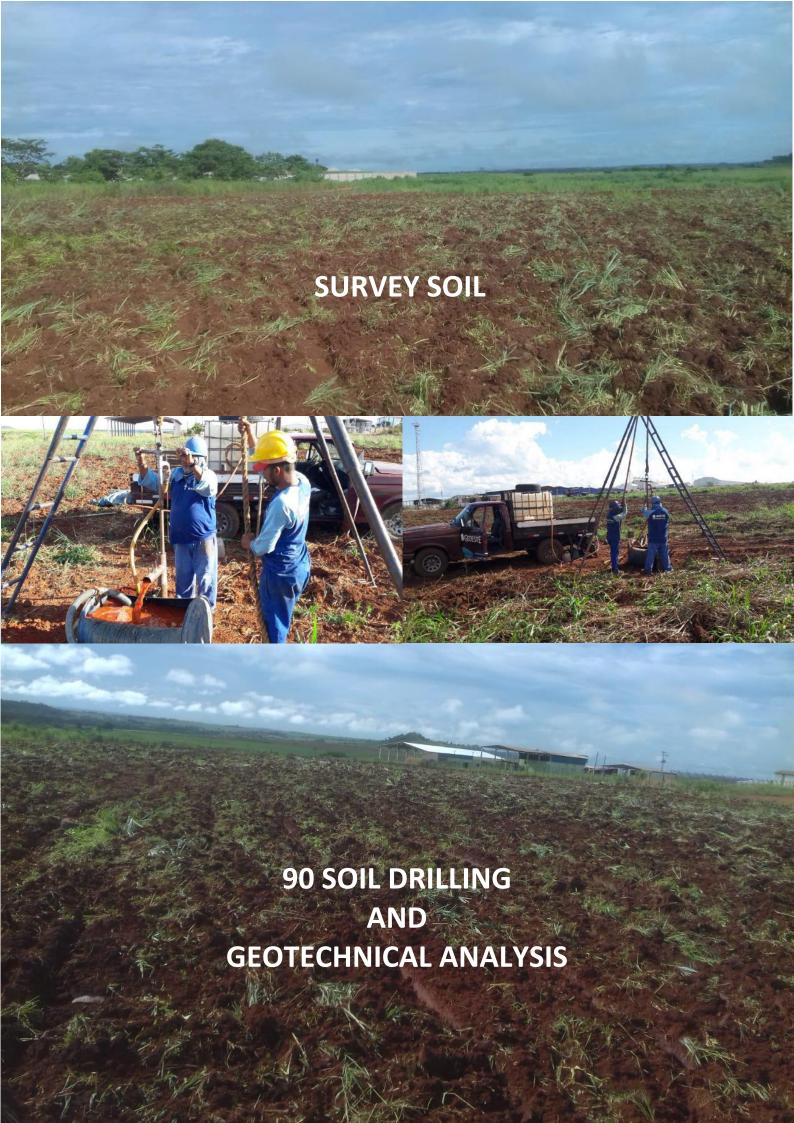


DEPLOYMENT AREA

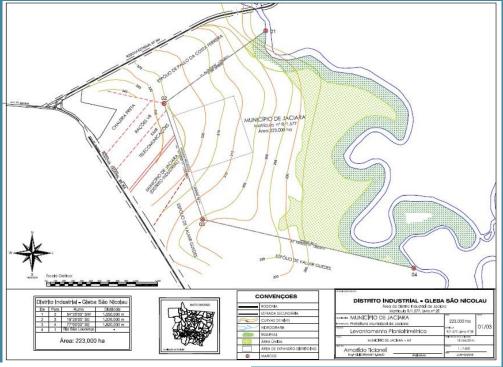
Forecast for the start of construction - Mai 2020

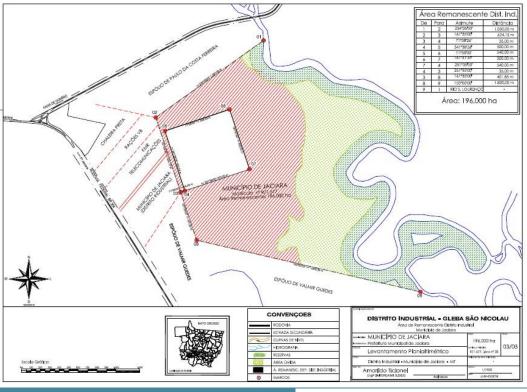


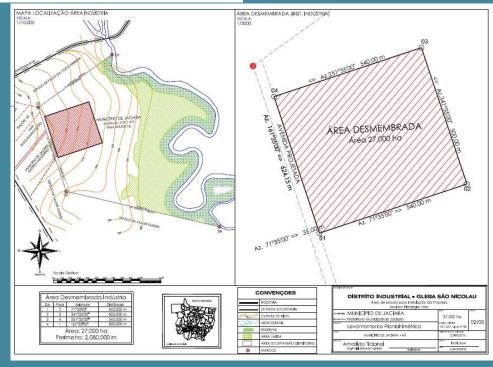


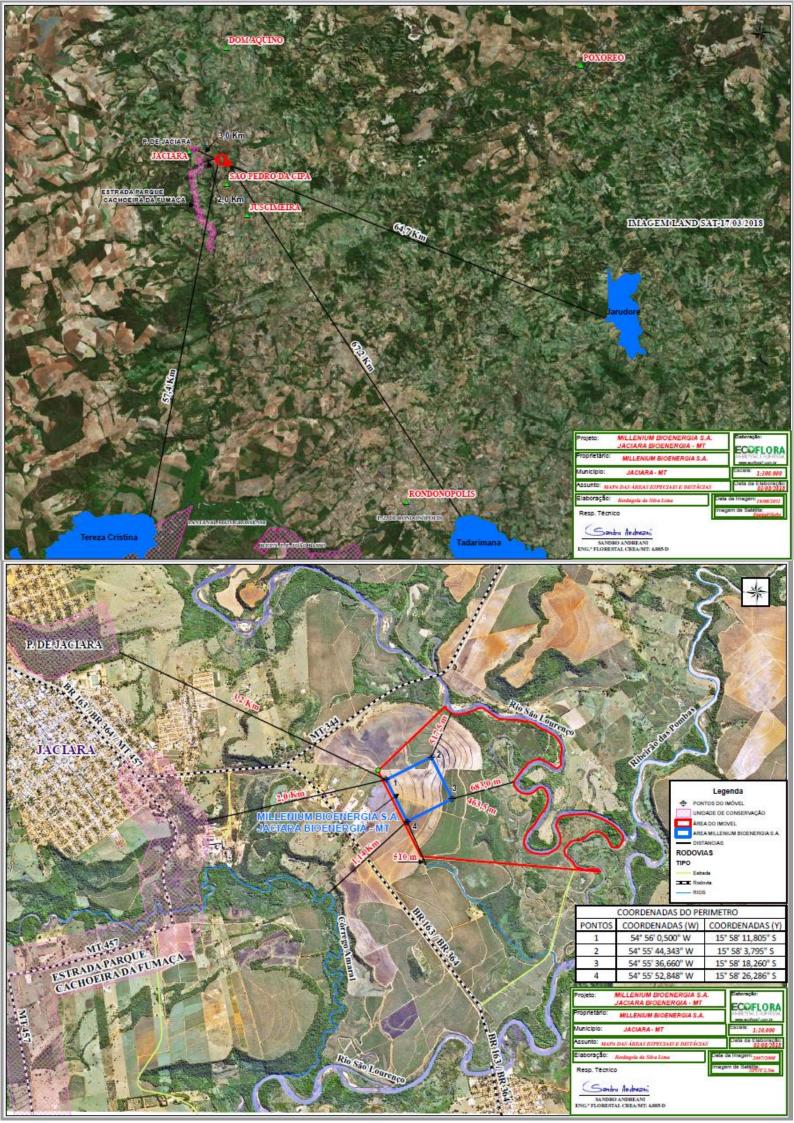












ECONOMIA

Consema dispensa estudos ambientais para implantar usina de etanol de milho em Sorriso

06/07/2018 07:03

O Conselho Estadual de Meio Ambiente (Consema) autorizou a dispensa de apresentação de Estudo de Impacto Ambiental e Relatório de Impacto Ambiental (EIA-RIMA) para implantação de uma usina de etanol de milho. Conforme a resolução publicada no Diário Oficial do Estado, a decisão ocorreu por maioria e referenda um parecer técnico da Secretaria Estadual de Meio Ambiente (Sema).

A usina de etanol de milho terá capacidade para processar 1,6 milhão de toneladas de matéria-prima por ano. O grupo empresarial responsável pela construção é o mesmo que instalou uma usina com a mesma finalidade em Lucas, no ano passado. Em Sorriso, a área construída será de 96 mil metros quadrado, às margens da BR-163. Com a decisão do Consema, a expedição das licenças ambientais deverá ocorrer de forma mais célere.

Em fevereiro, o empresário Marino Franz, sócio Fundador da FS Bioenergia, confirmou a instalação da segunda planta da indústria no Estado. A previsão é que o empreendimento comece a ser construído este ano com projeção de 1,5 mil empregos diretos e indiretos.

"Os valores a serem investidos nos próximos três anos entre a duplicação da planta de Lucas e a implantação da indústria em Sorriso, será na ordem de R\$ 1,5 bilhão", disse. A planta de Lucas do Rio Verde está sendo duplicada para processar 1,4 milhões de toneladas de milho ao ano (23 milhões de sacas de milho). "Juntando Lucas do Rio Verde e Sorriso, estamos falando algo em torno de 3,2 milhões de toneladas ao ano (53 milhões de sacas de milho)".

Inaugurada em agosto do ano passado, em Lucas do Rio Verde, a primeira usina de etanol 100% a partir do milho, utiliza a melhor tecnologia disponível no mundo (ICM). Atualmente, processa 700 mil toneladas de milho ao ano e, além do etanol, produz farelos para a alimentação de suínos, aves e bovinos.

Terca-Feira, 3 de Julho de 2018

Diário Oficial

Nº 27292

Página 6

GOVERNO DO ESTADO DE MATO GROSSO CONSELHO ESTADUAL DO MEIO AMBIENTE - CONSEMA

RESOLUÇÃO CONSEMA - 030/18 Cuiabá, 28 de junho de 2018. 6ª Reunião Ordinária

O Conselho Estadual do Meio Ambiente - CONSEMA, no exercício de sua competência prevista no art. 3° da Lei Complementar n° 38, de 21 de novembro de 1995, alterada pela Lei Complementar n° 232, de 21 de dezembro de 2005;

Considerando a decisão, por maioria, do Pleno do Conselho Estadual do Meio Ambiente - CONSEMA, nos autos do Processo nº 165824/18 - FS Agrisolutions Indústria de Biocombustíveis Ltda.

RESOLVE:

Art. 1° - Referendar o Parecer Técnico n° 117187/CIND/SUIMIS/2018, da Secretaria de Estado do Meio Ambiente - SEMA, dispensando de apresentação do Estudo de Impacto Ambiental e Relatório de Impacto Ambiental - EIA-RIMA para implantação de usina de etanol de milho, com capacidade de processamento de matéria prima de 1.623.800,00 toneladas/ano, em área construída de 96.030,05 m², localizada na Rodovia BR 163, Km 768, s/n, município de Sorriso, Estado de Mato Grosso.

Art. 2º - Esta resolução entra em vigor na data de sua publicação.

André Luis Torres Baby Presidente do Consema RESOLVE

Art. 1º - Referendar o Parecer Técnico nº 117291/CMIN/SUIMIS/2018, da Secretaria de Estado do Meio Ambiente - SEMA, dispensando de apresentação do Estudo de Impacto Ambiental e Relatório de Impacto Ambiental - EIA-RIMA para atividade de extração de areia, cascalho ou pedregulho e beneficiamento associados, em uma área de 4,36 hectares, na Fazenda ZM, margem esquerda da estrada Tamarana, zona rural do município Nova Xavantina, Estado de Mato Grosso.

Art. 2º - Esta resolução entra em vigor na data de sua publicação.

André Luis Torres Baby Presidente do Consema

GOVERNO DO ESTADO DE MATO GROSSO CONSELHO ESTADUAL DO MEIO AMBIENTE - CONSEMA

RESOLUÇÃO CONSEMA - 033/18 Cuiabá, 28 de junho de 2018. 6ª Reunião Ordinária

O Conselho Estadual do Meio Ambiente - CONSEMA, no exercício de sua competência prevista no art. 3° da Lei Complementar n° 38, de 21 de novembro de 1995, alterada pela Lei Complementar n° 232, de 21 de dezembro de 2005;

Considerando a decisão, por unanimidade, do Pleno do Conselho Estadual do Meio Ambiente - CONSEMA, nos autos do Processo nº 503751/08 - Auto de Infração nº 116397, 19/06/08 - Recorrente: Vanderlei Rosa.





Requerimento:

LICENÇA PRÉVIA

Millenium Jaciara Bio

USINA DE ETANOL DE MILHO

Millenium Bioenergia S.A.

CNPJ nº 21.543.596/0001-11

Protocolo n.: 445301/2019 Data: 12/09/2019 15:28

Governo do Estado de Mato Grosso

SECRETARIA DE ESTADO DO MEIO AMBIENTE

Interessado(a): MILLENIUM BIOENERGIA S.A (JACIARA BIOENE Assunto: LICENÇA PRÉVIA - LP Resumo: REF. LICENÇA PRÉVIA DE ETANOL ANIDRO E HIDRATA DO DE MILHO, DOGS - LOTE 95

Setor Origen: GPROT - GER. DE PROTOCOLO Setor Destino: CIND - COORD. DE INDUSTRIA

Volume: 1 de 8



Jaclara Mato Grosso 09/2019



Millenium Bioenergia S.A.

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Millenium Jaciara Bioenergia Ltda.

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Sugarism Trade and Consulting Inc

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Millenium Bioenery Pty Ltd

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