



METHANE TO MARKETS

BRAZIL

June, 2008

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SECRETARIA DE ESTADO
DO MEIO AMBIENTE



Ministry of Science and Technology

- **1st National Inventory 1990 – 1994;**
- **2nd National Inventory 1995 – 2005;**
- **Apply IPCC's methodologies;**
- **Actualize and check data;**
- **Create a national network of inventory, coordinate and organize two meetings in 2008.**



National Sanitary Inventory

Aterro sanitário - 2000



Cities bigger than
100.000 inhabitants
(2000) that send urban
solid waste to a landfill

(green = yes)

(red = no)

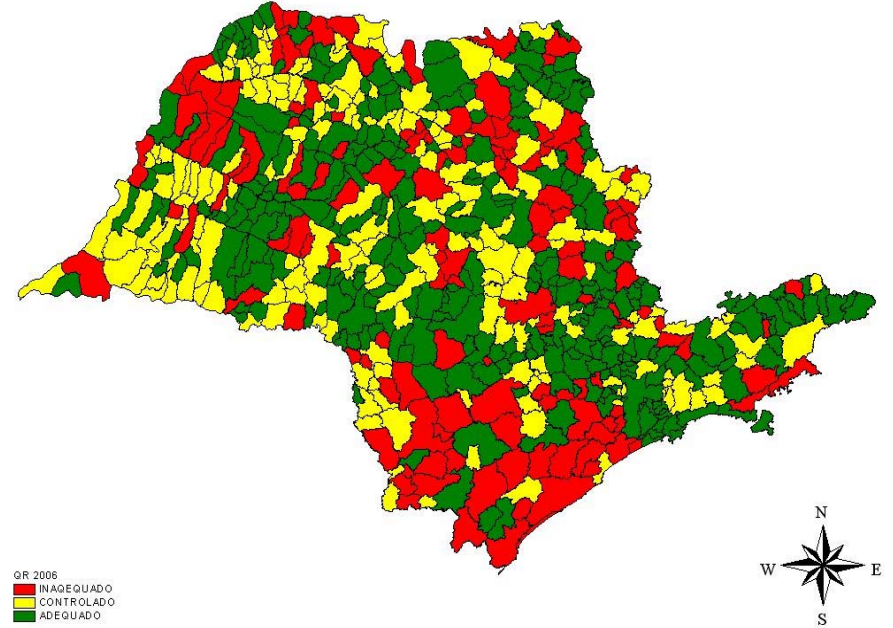
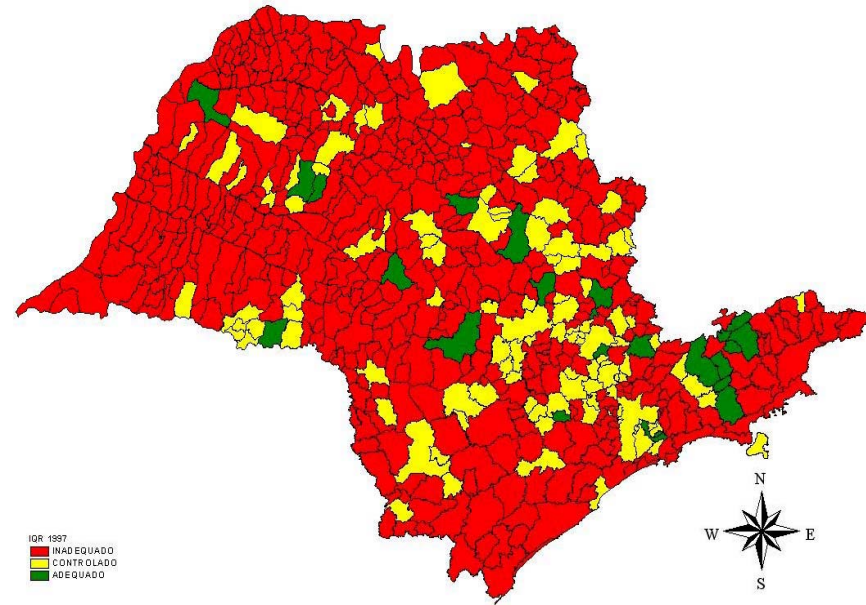
Sanitary Inventory by State




1997 and before

2006

ÍNDICE DE QUALIDADE DE ATERRO DE RESÍDUOS NO ESTADO DE SÃO PAULO - IQR - 1997

ÍNDICE DE QUALIDADE DE ATERRO DE RESÍDUOS NO ESTADO DE SÃO PAULO - IQR - 2006



-  Open Dump
-  Managed
-  Landfill

Overview of LFG in Brazil

There are several Clean Development Mechanism projects on the waste sector (landfill gas and manure management) submitted to the Brazilian Designated National Authority, following the CDM projects in Brazilian landfills:

Landfill Name	State	waste (t/day)	Open	Close	Use/Methodology	CO ₂ equiv/year (t/year)
Canabrava	BA	2.800	1974	2001	Flaring/ACM0001	210.000
Vega	BA	2.361	1997	2010	Flaring/ACM0002	930.000
Manaus	AM	n.a.	1986	2015	Flaring/ACM0002	900.000
Pedreira		n.a.	2007	2013	Flaring/ACM0001	230.000
Marca	ES	1.000	2002	2017	Flaring/ACM0001	300.000
Aurá	PA	1.200	1990	2010	Flaring/ACM0001	320.000
Nova Gerar	RJ	2.000	2003	2023	Flaring/ACM0001	340.000
Sil	RS	n.a.	2001	2014	Flaring/ACM0001v3	100.000
Anaconda	SP	419	2000	n.a.	Flaring/ACM0001v3	120.000
Bandeirantes	SP	7.500	1979	2006	20MW/ACM0001	1.300.000
Caieiras	SP	2.000	2002	2020	Flaring/ACM0001	730.000
Embralixo/Araúna	SP	164	1990	2013	Flaring/ACM0001	80.000
Estre/Itapevi	SP	900	2001	2014	Flaring/ACM0001v3	110.000
Estre/Paulinia	SP	2.500	2000	2010	Flaring/ACM0001v2	210.000
Estre/Santos	SP	1.200	2003	2023	Flaring/ACM0001v3	230.000
Lara	SP	1.500	1987	2014	Flaring/ACM0001	1.000.000
Onyx Sasa	SP	493	1996	n.a.	Leachate Evaporating/AM001 1	90.000
Quitaúna	SP	1.000	2007	2014	Flaring/ACM0001v3	100.000
São João	SP	5.479	n.a.	n.a.	20MWe/ACM0001	1.000.000
20 CDM projects	BR	27.990	t/day			

Source: www.mct.gov.br/clima (CDM projects)

Research and Development

Electric Power in landfills in Sao Paulo State

Landfill	State	Waste (t/day)	Methodology	CO2 equiv (t/year)	Power MW	Power at PDD	Power estimated	Period (year)
Pedreira	SP	360	ACM0001	226.751	0	0	4,5	7
Anaconda	SP	419	ACM0001	116.053	0	0	2,3	7
Bandeirantes	SP	15.000	ACM0001	1.281.572	22	22	25,4	7
Caieiras	SP	2.000	ACM0001	734.917	0	0	14,6	20
Embralixo/Araúna	SP	164	ACM0001	66.399	0	0	1,3	7
Itapevi	SP	900	ACM0001	106.891	0	0	2,1	7
Paulínia	SP	2.500	AM0003	212.539	0	0	4,2	7
Santos	SP	1.200	ACM0001	234.972	0	0	4,7	7
Lara	SP	1.500	AM0003	1.031.717	0	10	20,5	7
Onyx	SP	493	AM0011	90.000	0	0	1,4	10
Quitaúna	SP	1.000	ACM0001	13.296	0	0	2,3	7
São João	SP	5.479	ACM0001	1.057.143	20	20	21,0	7
12 Landfills	BR	31.015		5.272.250	42	52	104,1	

Source : MCT,2007

Brazil: More than 160MW @20 PDDs
+/- 300MW including new opportunities



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SEARCH

September 26, 2007 -- Updated 0330 GMT (1130 HKT)

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Stock market sells carbon credits

STORY HIGHLIGHTS

- Brazil's Mercantile and Futures Exchange: Sale is first on a regulated exchange
- Conservation International calls sale certainly a first for a developing country
- World Bank: Global carbon market has tripled from 2005 to last year
- Under Kyoto Treaty, companies can buy offsetting carbon credits

[Next Article in World »](#)

TEXT SIZE – +

RIO DE JANEIRO, Brazil (AP) -- Brazil's largest city sold millions of dollars worth of carbon credits at an auction Wednesday in a deal that experts said paves the way for developing countries to make money fighting global warming.

Brazil's Mercantile and Futures Exchange called Sao Paulo's sale of \$18.5 million in carbon credits to Dutch-Belgian Fortis Bank the first such sale to be held on a regulated stock market and a significant step toward institutionalizing the carbon market.

Under the Kyoto Treaty on greenhouse gases blamed for global warming, companies that generate large amounts of polluting carbon dioxide and methane can buy offsetting credits from projects that remove contaminants.

Until Wednesday's auction on the Brazil stock exchange, companies such as Fortis mostly purchased credits from individual sellers. Experts said the sale could be a major step toward creating a clearer system that could make buying and selling easier.

Most Popular

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Most Viewed	Most Emailed	Top Searches
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2	NASA chief: China will beat us back...	
3	Report: Jones admits steroids use	
4	Mr. Potato Head in ecstasy bust	

Support and trade at BM&F:

MBRE - Microsoft Internet Explorer
http://www.bmf.com.br/portal/pages/mbre/
Bolsa de Mercadorias & Futuros
Mercado de Carbono
Login

eBTS - Microsoft Internet Explorer
https://www2.bmf.com.br/Carbon/default.aspx
PUBLICOGERAL
Horário UTC: 14:49:52 Horário de Brasília: 11:49:52 e-BTS
Projeto Instrumento Vencimento Qtde C Of C Of V Qtde V Preço Min Qtde Max Estado Data/hor
Bandeirantes Landfill Gas to Energy Project (BLFGE) CERP033D SPOT 808.450 16,20 16,20 808.450 12,70 808.450 808.450 Pós-leilão 26/09/2007
NEGÓCIOS - CERP033D
OFERTAS ON LINE
Melhores ofertas de compra - CERP033D
Cód. oferta Hora Participante Qtde Preço
14 11:26:10 1749 808.450 16,20
6 11:25:41 1745 808.450 16,00
8 11:18:55 1750 808.450 15,90
10 10:55:12 1751 808.450 15,80
9 11:13:33 1756 808.450 15,80
7 10:09:11 1744 808.450 15,10
5 10:04:46 1753 808.450 13,40
4 10:04:00 1752 808.450 13,30
2 10:01:09 1746 808.450 13,10
Melhores ofertas de venda - CERP033D
Cód. oferta Hora Participante Qtde Preço
15 11:49:11 1758 808.450 16,20
MENSAGENS
26/09/2007 11:47:32 Aucboneer Gone
26/09/2007 11:46:25 Aucboneer Going...
26/09/2007 11:45:01 Aucboneer The auction is finishing. Going...
26/09/2007 11:44:14 Aucboneer Are there any more bidders?

€12,70/tCO₂eq

€13,10/tCO₂eq

€16,20/tCO₂eq

Intergovernmental Panel of Climate Change - IPCC

INVENTORY GHG (2006) AND
COMPUTER PROGRAM
(INVENTORY)

2006 IPCC Guidelines for
National Greenhouse Gas
Inventories



A screenshot of the IPCC website homepage. The browser address bar shows 'http://www.ipcc.ch/'. The page features the WMO and UNEP logos at the top. A navigation menu on the left lists: 'About IPCC', 'Activities', 'Calendar of Events', 'Publications', 'Presentations & Graphics', 'Press releases & Speeches', 'Official documents', and 'Other links'. A search box is located below the menu. The main content area has a large banner for 'Climate Change 2007' with the text 'The IPCC 4th Assessment Report is coming out' and a 'Play' button. To the right of the banner is a photo of a modern building with the text 'The Synthesis Report will come out' and 'The core findings of the three volumes integrated most policy-relevant scientific document on climate change for the years to come.' Below the banner is a paragraph of text about the IPCC's mission and its current work on the Fourth Assessment Report (AR4). At the bottom, there are sections for 'Other IPCC News' and 'IPCC Fourth Assessment Report (AR4) Working Group I Report "The Physical Science Basis"', each with links to reports and webcasts.

Endereço http://www.ipcc.ch/



INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE



IPCC web sites

- About IPCC
- Activities
- Calendar of Events
- Publications
- Presentations & Graphics
- Press releases & Speeches
- Official documents
- Other links

Search

**New Language Portals
in all UN languages**

R.....I

"Climate Change 2007"

The IPCC 4th Assessment Report
is coming out

A comprehensive and rigorous picture
of the global present state of knowledge
of climate change

Play



Novemb

The Synthesis Report will come out

The core findings of the three volumes integrated
most policy-relevant scientific document on climate
change for the years to come.

The Intergovernmental Panel on Climate Change (IPCC) has been established by WMO and UNEP to assess scientific, technical and socio-economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation. It is currently finalizing its Fourth Assessment Report "Climate Change 2007", also referred to as AR4. The reports by the three Working Groups provide a comprehensive and up-to-date assessment of the current state of knowledge on climate change. The Synthesis Report integrates information around six topic areas. [More](#)

Other IPCC News

The Nobel Peace Prize goes to the Intergovernmental Panel on Climate Change (IPCC) and Albert Arnold (Al) Gore Jr. "for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change". **New**

IPCC Fourth Assessment Report (AR4)

Working Group I Report "The Physical Science Basis"

- > [FULL REPORT now available online](#)
- > [SUMMARY FOR POLICYMAKERS](#)
- > [Webcast of the Press Conference - Paris 2 Febr 2007](#)



Programa Estadual de Mudanças Climáticas



SECRETARIA DO MEIO AMBIENTE



RESPEITO POR VOCE

SOBRE O PROCLIMA

- O Programa
- Ações
- Caracterização e Atribuições
- Fale conosco
- Histórico e Organograma

EFEITO ESTUFA

- Conceituação
- Gases de Efeito Estufa
- Relatórios de Referência
- Calculadora de emissões (ICLEI)
- Linha do Tempo
- Glossários

NEGOCIAÇÕES INTERNACIONAIS

- Período anterior à Convenção
- A Convenção sobre Mudanças Climáticas
- Período posterior à Convenção

MERCADO DE CARBONO

- Conceito, Formação e Funcionamento
- Ciclo dos Projetos de MDL
- Painel de Metodologias
- Outros benefícios do MDL

CURSOS E SEMINÁRIOS

PUBLICAÇÕES

NOTÍCIAS

LINKS

AGENDA DE EVENTOS

ARTIGOS E DISSERTAÇÕES

AGRADECIMENTOS

EXPEDIENTE



Efeito estufa

O efeito estufa e o aquecimento global



Negociações Internacionais

A Convenção sobre Mudanças Climáticas



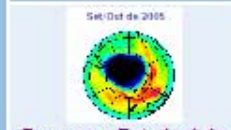
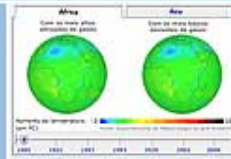
Mercado de Carbono

Conceito, Formação e Funcionamento

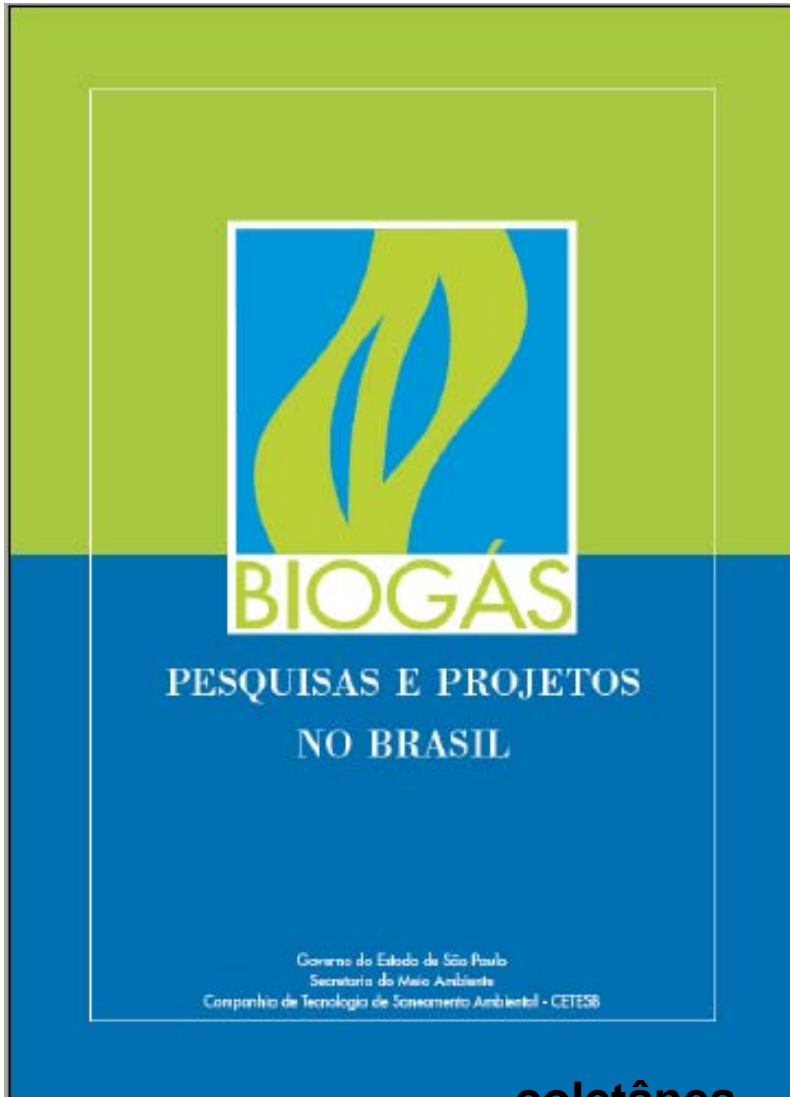


Notícias
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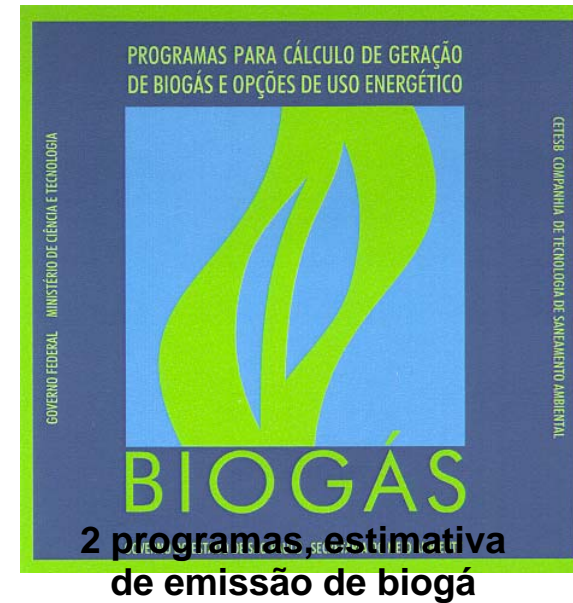
China quer menos barreiras para tecnologias limpas



Fomento à Captura e Uso Energético do Biogás



coletânea



The image is a screenshot of a Microsoft Internet Explorer browser window. The address bar shows the URL "http://www.cetesb.sp.gov.br/biogas/default.asp". The page content includes the "BIOGÁS GERAÇÃO E USO ENERGÉTICO" logo and a section titled "Programas 'Biogás, geração e uso energético' aterros e efluentes & resíduo rural, versão 1.0". The text describes the programs developed by CETESB and MCT, detailing their use in sanitary landfills and anaerobic digestion of domestic and industrial waste. It also lists the programs available for download: "Programa 'Biogás geração e uso energético' efluentes e resíduo rural, versão 1.0 - (90MB)" and "Programa 'Biogás geração e uso energético' aterros, versão 1.0 - (107MB)". The page footer includes the text "Sobre a cooperação entre SMA-SP, CETESB e MCT." and "Estes programas de computador para estimativa de geração de biogás e avaliação de recuperação e uso energético, fazem parte dos produtos desenvolvidos no âmbito de dois Convênios firmados entre o Governo do Estado de São Paulo, por meio da Secretaria de Estado do Meio Ambiente e da Companhia de Tecnologia de Saneamento Ambiental - CETESB, e do Governo Federal, por meio do Ministério da Ciência e Tecnologia, Esses".

página na internet

METHANE TO MARKETS WORKSHOP IN SAO PAULO

June 10 e 11



METHANE TO MARKETS WORKSHOP IN SAO PAULO

June 10 e 11

AUDIENCE

- Municipal government staff and officials with an interest in developing landfill biogas (LFB) projects at their municipally-owned landfills
- Landfill managers and landfill engineers (this could include private contractors or concessionaires who operate municipally-owned landfills)
- Public works directors
- Financial staff and staff from purchasing/contracting office
- Maybe some elected municipal officials
- Students, and others



METHANE TO MARKETS WORKSHOP IN SAO PAULO

June 10 e 11

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METHANE TO MARKETS WORKSHOP IN SAO PAULO

June 10 e 11

- **LFB use, partnerships, technologies**
- **US-EPA Experience with LFB**
- **LFB use in Brazil**
- **Brazilian network to LFG use**
- **LFB Capture and Utilization as a Climate Change Mitigation Strategy**
- **LFB Project Assessment**
- **LFB Project Design**
- **LFB Project Operation**
- **LFB Project Monitoring**
- **Renewable Power Generation Logistics and Economics**
- **Workshop of Brazilian LFG experience**
- **MTM Experience**



BIOGÁS

Thank you!

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