

SSN1: CDM for Sustainable Development The case of USINAVERDE Project (RJ, Brazil)

“USINAVERDE: Combustion of RDF, refused derived fuel, from urban solid wastes: methane avoidance and renewable power generation.”

USINAVERDE PILOT-PLANT



LANDFILL IN RIO



- **PILOT-PLANT RUNNING.**
- **PDD VALIDATED AND APPROVED BY the INTERMINISTERIAL COMMISSION ON GLOBAL CLIMATE CHANGE → BRAZILIAN DNA - LETTER OF APPROVAL ISSUED ON OCTOBER 14th, 2005.**
- **UNFCCC CDM PDD IN REGISTRY PROCESS UNDER UNFCCC CDM SECRETARIAT.**

Project activities eligibility:

1) UNFCCC CDM Category: III.E – Methane avoidance

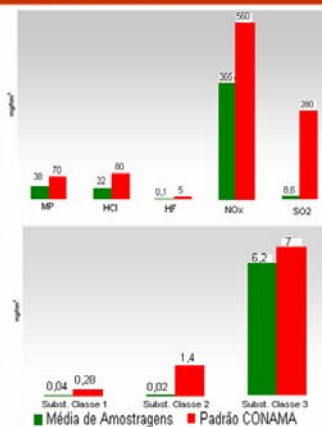
Simplified Modalities and Procedures for Small-Scale CDM Project Activities - Reducing the amount of urban solid wastes disposed of in landfills, in order to avoid methane formation from their anaerobic decomposition.

2) Project activity eligible under the Gold Standard: Renewable Energy A1.1- Biomass, biogas and biofuels.

Promote Renewable Power Generation from Biomass.

Emissões Gasosas

Parâmetro	USINAVERDE	CONAMA Res. 316/2002
	mg/Nm ³	mg/Nm ³
Material Particulado	38,42	70,0
Cl ₂	53,48	
HCl	32,16	80
HF	0,12	5
SO _x - SO ₂	8,61	280,0
NO _x	365,44	560,0
Hidrocarbonetos Voláteis	1.031,49	39.290,0
Metais Pesados Classe I	0,04	0,28
Metais Pesados Classe II	0,02	1,4
Metais Pesados Classe III	6,2	7
Dioxinas e Furanos	0,32 ng/Nm ³	0,5 ng/Nm ³



Obs.: Resultados de testes realizados entre set./dez. 2004

Renewable Energy Generation at USINAVERDE Technological Center pilot-plant:

- **Capacity: process 30 tons/day of residues (equivalent to a city with 50,000 inhabitants).**
- **Consumption of 8 kg of LPG per ton of treated waste**
- **Power generation potential: 750 kW**
- **Installed generation capacity: 440 kW**
- **Plant uses 220 kW for its own consumption**
- **220 kW of surplus energy (today)**
- **530 kW of potential surplus energy**