



2nd Annual Methane to Markets Partnership Meeting



Practical Lessons from
Methane Project Case Studies



Landfill Gas Sector
NOVAGERAR PROJECT



Nova Iguaçu - Brazil



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OVERVIEW

- 1) Background of NOVAGERAR project
- 2) Stages of carbon credit process
- 3) Strategies for Securing Project Finance
- 4) Risks and Risk Mitigation
- 5) Reasons for Success
- 6) Lessons Learnt

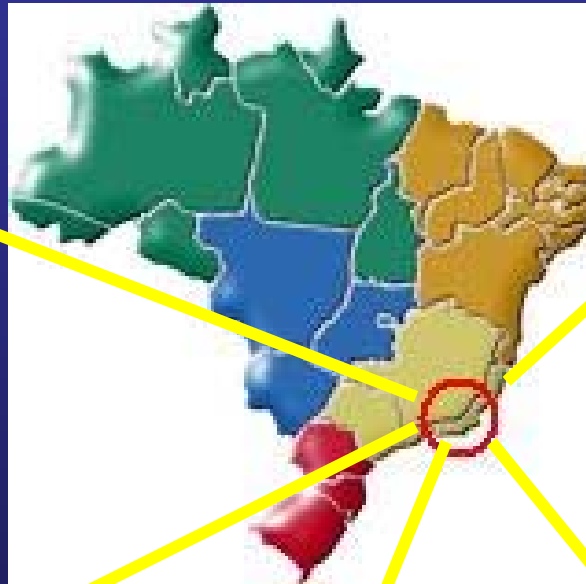


NOVAGERAR Background

Nova Iguaçu Treatment Center – CTR



Sanitary Landfill



Environmental Recovery of the Marambaia Dump



Medical Waste Treatment Unit



Leachate Treatment



Construction Waste Recycling





Marambaia Open Dump Before the Project





Marambaia Situation after the first part of the project





CTR NOVA IGUAÇU – The New Solid Waste Treatment Center



The new Sanitary Landfill



Leachate Treatment - Dehydration



Leachate Treatment - the landfill gas used as the fuel for the heating process



Environmental and Social Responsibility



Nursery Greenhouse developed by the former waste scavenger



Environmental Education; Adult Education and Training Courses





NOVAGERAR Background

Sanitary Landfills and Carbon Credit



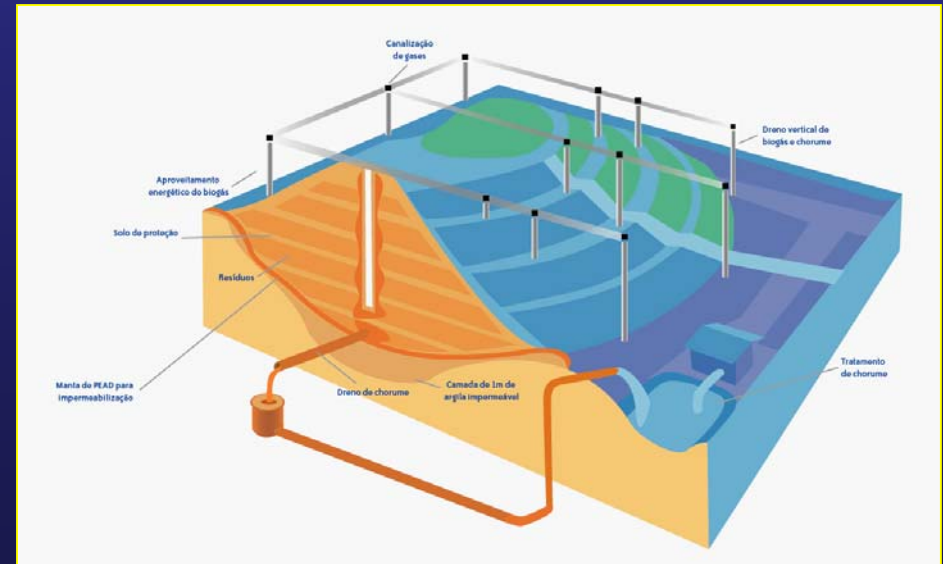
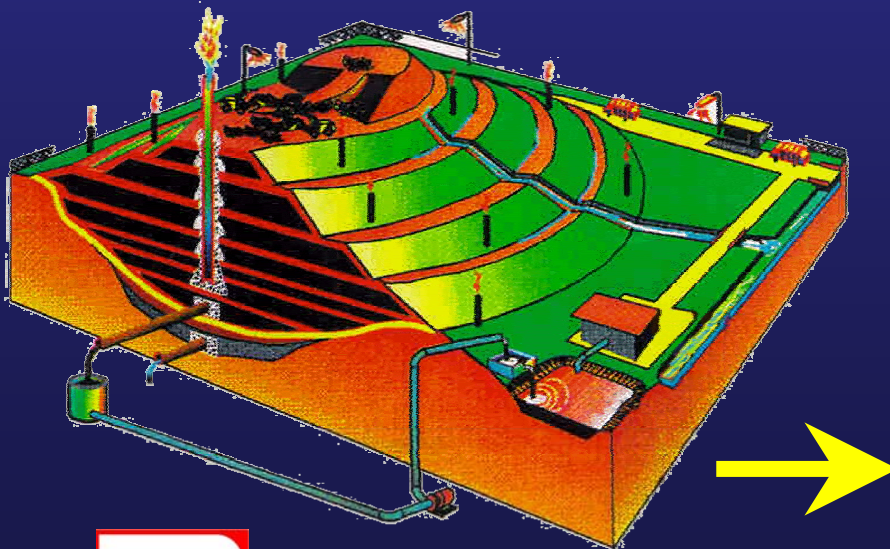
Landfill Gas: 55% of CH_4 and 40% of CO_2

CH_4 GWP=*Global Warming Potential* = 21

The Contribution of the Methane to the Global Warming is 21 times greater than the Carbon Dioxide

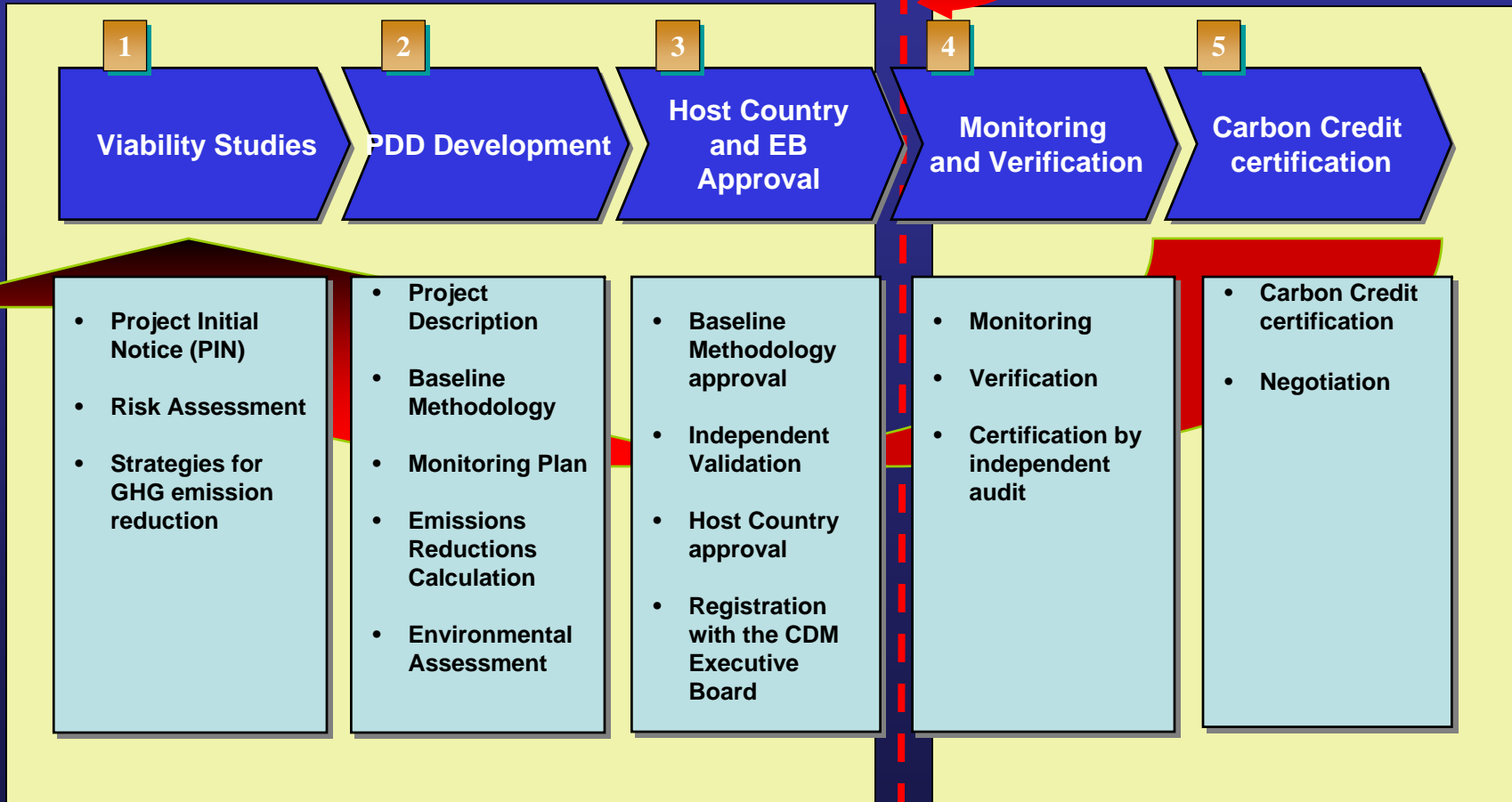
NOVAGERAR
Carbon Credit:

2,5 million tCO₂eq
until 2012



Stages of the carbon credit process

Preferred timing of implementation





Strategies for Securing Project Finance

Nova Iguaçu Treatment Center
Sustainable and Integrated Solution

- 20 years Concession – PPP contract with local council
- Medical Waste Treatment Unit
 - Construction Waste Recycling Unit
 - Leachate Treatment Unit
 - Industrial and Sanitary Landfill
 - Old Dump Closure and Environmental Recovery

NOVAGERAR
Landfill gas capture
and use

SA PAULISTA
INVESTMENT

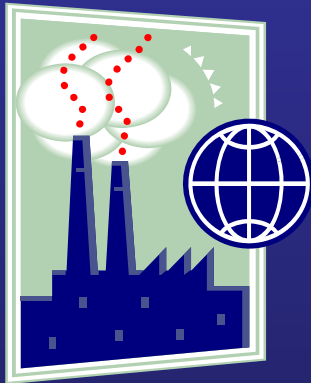


CARBON CREDIT
PROJECT FINANCE



Risks and Risk Mitigation

GWP Risk



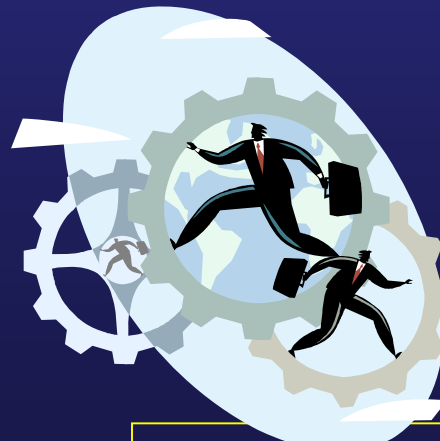
Gas generation and collection



Business as Usual Risk



Scavengers



Political Risk

Market Risk





Risks and Risk Mitigation

Political Risk	-A strong 20 years contract with the municipality -become a national and international reference
Scavengers	- An effective social responsibility plan and job generation
Gas generation and collection	- One operator of landfill, gas collection and monitoring facilities – no conflict of interest; - Separate the industrial / domestic / public waste in the landfill; - A very well designed landfill and gas system;
Market Risk	Risk Protection policies (Hedging).
Business as Usual Risk	- Always study new technologies and innovation
GWP Risk	?????





Reasons for Success

- **Political risk already mitigated – concession contract already signed;**
- **Market Pioneering Spirit;**
- **Company know-how in solid waste treatment and disposal operations;**
- **Partnership with CDM experts;**
- **Vision of Business Opportunity;**
- **Perseverance in pursuing objectives;**
- **Ability to be both a good listener and negotiator;**
- **Company Mission: strong environmental and social responsibility policies;**





Lessons Learnt

- State Level Environmental License for the Landfill – It took 3 years
 - LL: Implement our social responsibility plan from the beginning of the Concession in order to both obtain good publicity and block counter arguments which could delay the license issue.
- Federal Level Host Country Approval – It took 1,5 years
 - LL: Appoint a dedicated person to follow through documentation;
- The CDM aspect
 - LL: Instead of joining with a non investment partner – contract a CDM consultancy.



Conclusions and Next Steps

- A Solid Waste Management Model that could be replicated to other metropolitan regions in Brazil and Developing Countries;
 - A PPP contract as a fundamental tool;
- The industrial waste disposal works as a subsidy / funding to the domestic waste disposal;
- The Carbon Credit also works as a financial support, but less representative;
 - Electricity Generation Option – 12 MW in 2011
- The Carbon Credit could be an important financial support to rehabilitate open dumps but cannot finance the whole construction and operation of a new Sanitary Landfill.





THE END

THANK YOU !

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