

Brazilian Carbon Market

Brazil Day - Forum at the University of St.Gallen, October 22, 2010

Brazilian CDM - Protecting the Climate – Maximising Joint benefits

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First Climate – 11 Years of Carbon Experience

A Pioneer in the Carbon Market

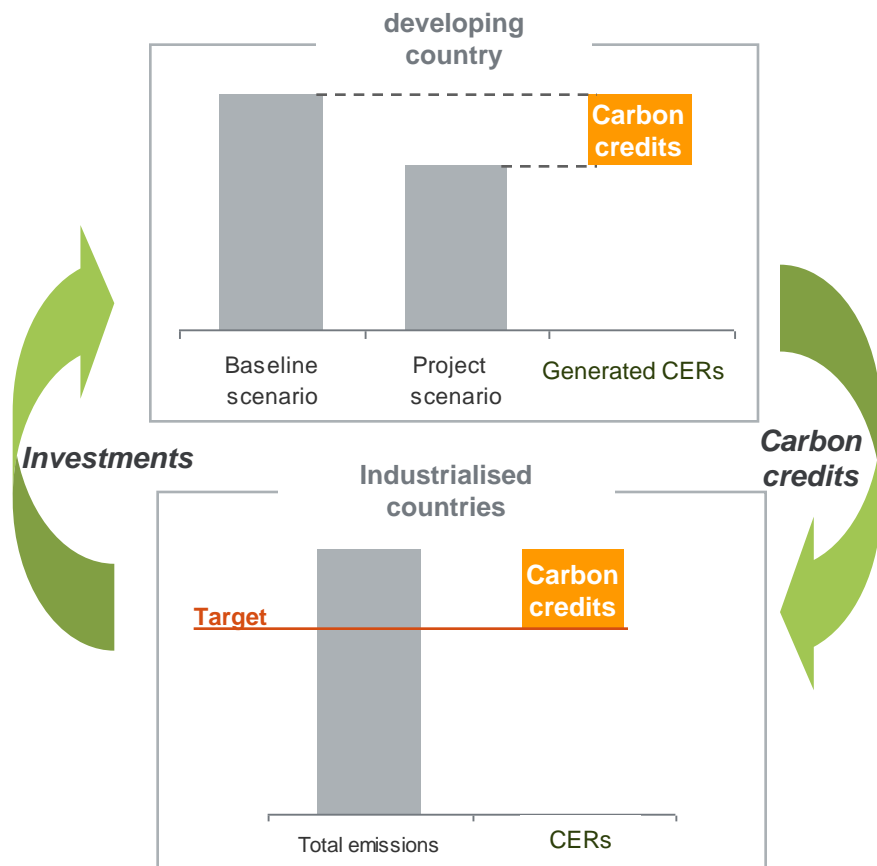
- Factor Consulting + Management AG (founded in 1999 in Zurich, Switzerland): expertise in project and methodology development
- 3C Group (founded in 2003 in Frankfurt / Main, Germany): expertise in carbon credit commercialization, fund advisory, and climate neutral services
 - Early 2008: First Climate established through merger of 3C and Factor
- Vertically integrated carbon asset management company, 120 employees
- 11 Offices worldwide, including Sao Paulo
- Solid track record in voluntary and compliance market
- Strong presence in buyer (Europe) and seller market (Transition & Developing Countries)
- Pioneer in methodology development for new project types

International Agreement on Climate Change: The Kyoto Protocol (1997)

- Industrialised countries agreed to reduce their greenhouse gas emissions by 5.2% from the 1990 level (the EU agreed to 8%)
- Commitment period: 2008-2012
- These goals were translated into national / regional relevant targets for high emissions industrial sectors (e.g. European Union Emissions Trading Scheme, EU-ETS), which can be achieved through either domestic activities or by accessing credits that can be generated in developing countries
- So far there is no follow-up international agreement in place to replace the Kyoto Protocol (COP/MOP)

The *Clean Development Mechanism* prices CO₂e as an Incentive for Low Carbon Growth in Developing Economies

Carbon credit generation



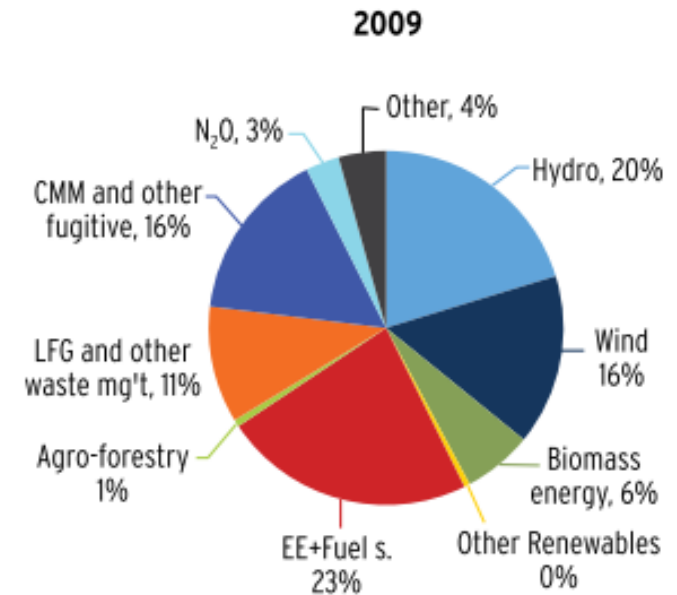
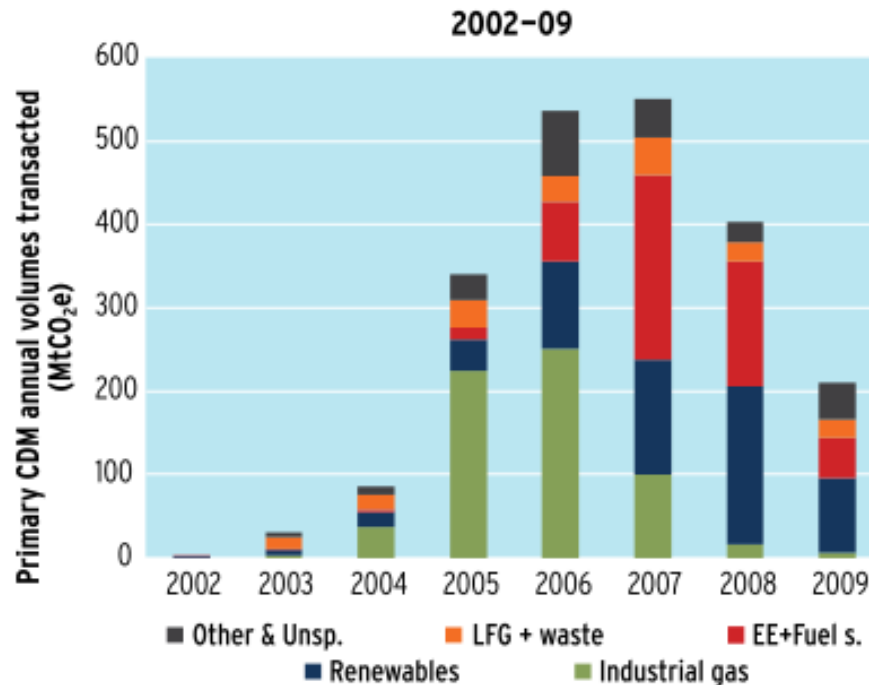
- Under the CDM, emission reduction projects can apply to the UN verification process in order to earn saleable carbon credits (CER=1 ton of CO₂)
- Carbon credits can be used by industrialized countries to meet their emissions reduction compliance targets
- Through emission reduction projects, the mechanism stimulates international investment to support developing countries in reaching sustainable development

Carbon Transactions: a EUR 106 bn Global Market

Carbon Market 2009 (EUR 106bn)		
	Compliance	Voluntary
Comments	Industries are obliged to hand in carbon allowances and/or carbon credits (from project activities) to governmental institutions	Enables voluntary emissions offsetting through project activities
Carbon credits	Certified Emission Reductions (CER)	Verified Emission Reductions (VER)
Forestry credits	Not accepted under EU-ETS	Yes (Voluntary Carbon Standard)
Operational until	<ul style="list-style-type: none"> ▪ Kyoto Protocol expires in 2012 ▪ EU ETS operational until 2020 	No limit
Markets (EUR billion)	<p>EU-ETS allowances: 87 CDM: 15 RGGI and NSW: 2 Others: 2</p> <p><i>EU-ETS represents 82% of transactions</i></p>	<p>Voluntary markets (CCX and OTC): 0.3</p>

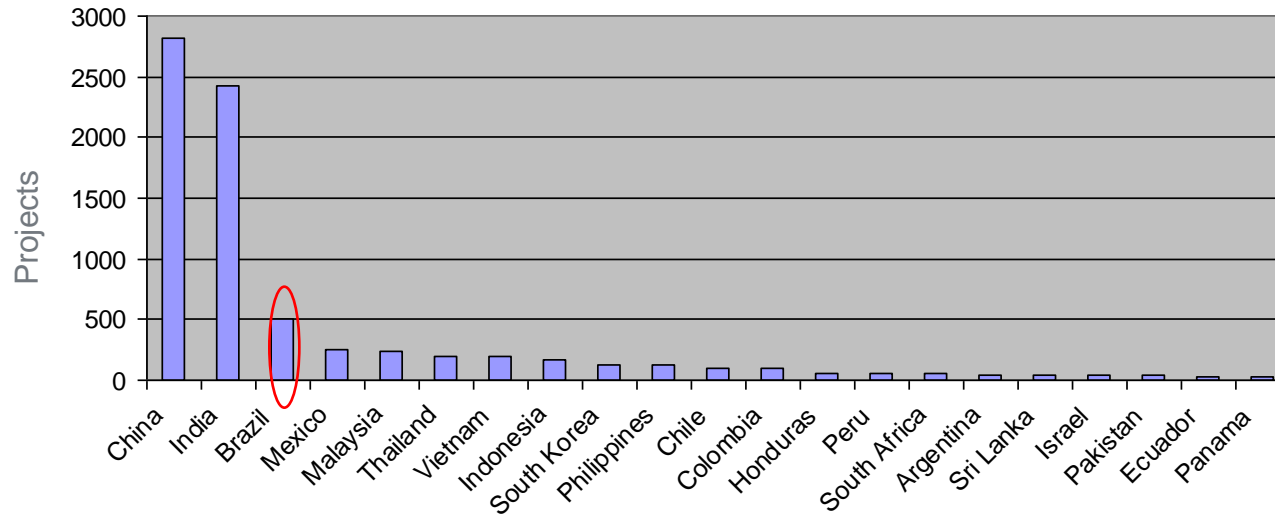
Source: State of the Carbon Market 2010 - World Bank

CDM Projecttype Sectors

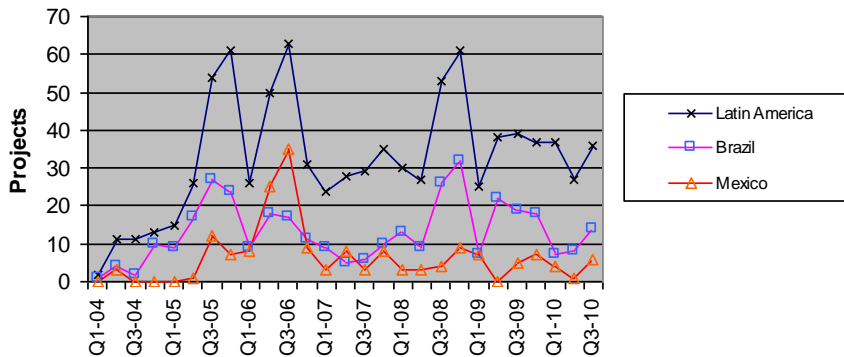


Source: State and Trends of the Carbon Market 2010 - World Bank - <http://carbonfinance.org/>

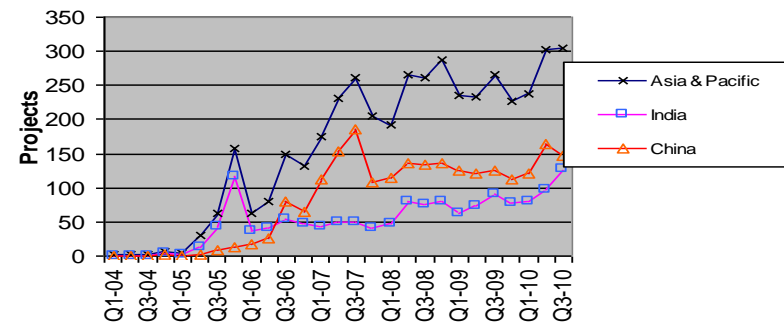
Brazil's Position in CDM Pipeline



New project in Latin America entering the pipeline each quarter



New project in Asia in the pipeline each quarter



Source: RISOE CDM Pipeline Oct 2010

Facts & Figures CDM in Brazil

Leading position in the CDM along with India and China

- more than 500 projects in the pipeline
 - ~ 200 mio CERs until 2012
 - ~ 490 mio CERs until 2020
- Brazil was the first country to sign the United Nations Framework Convention on Climate Change on 4 June 1992 and the National Congress ratified it on 28 February 1994

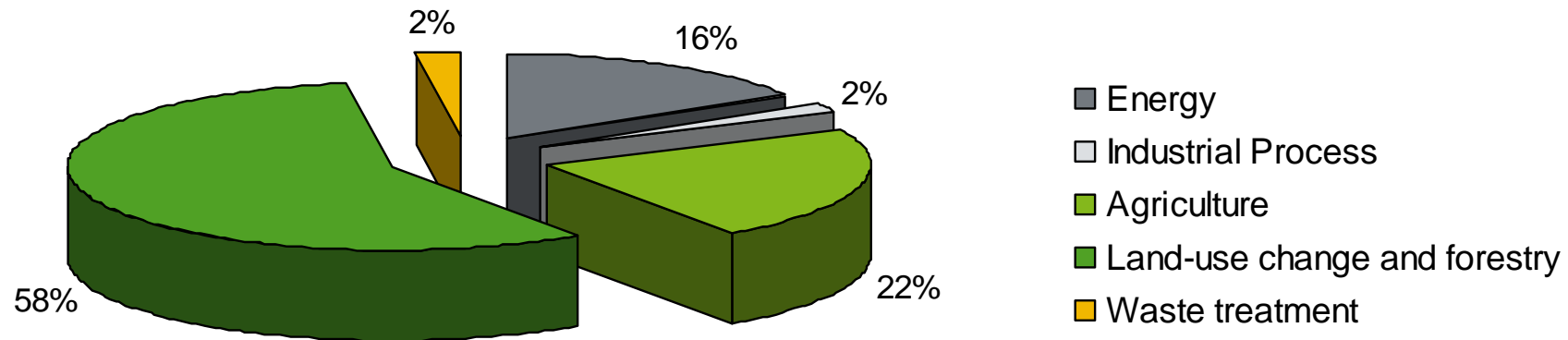
Carbon Market Pioneer

- First registered project (Nov 2004 - Brazil NovaGerar Landfill Gas to Energy Project)
- First approved methodology (Landfill – Salvador da Bahia)

Largest potential as an exporter of carbon credits in Latin America

GHG Emissions in Brazil (tCO₂eq)

2,2 Gt CO₂eq in 2005 → 5% of global emissions (No 5!!)

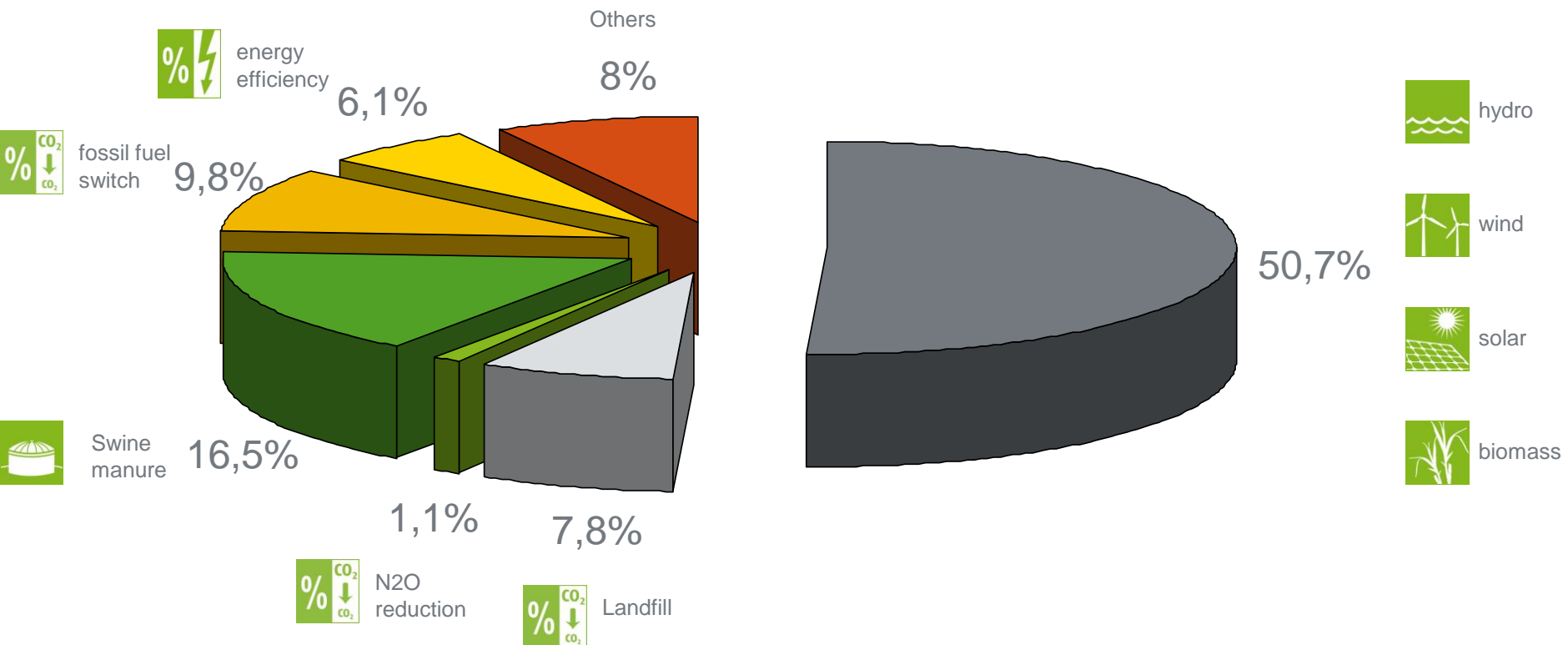


Brazil's energy matrix

Renewable	89,6%
Fossil	7,8%
Nuclear	2,7%

Source: Ministério da Ciência e Tecnologia, 2009

Ratio of Brazilian CDM Projects by Sectoral Scope



Source: Ministério da Ciência e Tecnologia, 2010

First Climate Brazil

First Climate pipeline in Brazil

- 580.000 VERs contracted in Brazil
- 7 million CERs in the Brazilian FC pipeline contracted or close to contracting
- Project Finance transactions, Guarantee Vehicle GC2
- Well known CER and VER Buyer

First Climate is actively participating in the Post-2012 Market

- **Active support of new cash-flow streams generation through CER purchase**
- **Forward purchase of carbon credits (CERs) generated after 2012**
- **Different Funds and Pooling Instruments**
 - *Climate Change Investment I S.A.*
 - *Post-2012 Carbon Fund*
 - *International Carbon Compliance Initiative* → Attractive for Compliance Buyers!
 - *Guarantee Vehicle GC2*
- **Pricing and Terms**
 - Fixed prices and/or index-linked prices with floor
 - Up-front payments possible via ERPA-backed early debt-financing facility
 - Contribution to CDM Project Cycle costs possible
 - Ability to off-take whole CER stream

Outlook: Future Role of CDM in Brazil

- If no international agreement is reached, a fragmented market for offsets will develop (EU, AUS, JP, NZ,...)
- Strong political will to continue CDM (at UN level)
 - We expect CERs to be “generated” and issued (by the EB) after 2012.
- EU-ETS to continue and with provisions on CDM
 - We expect the EU-ETS and EU Government to be the main demand drivers

Conclusion:

- Brazil will stay one of the main CERs suppliers in LatAm and attract investments in carbon-relevant sectors
 - Brazil is one of the pioneers in preparing for non-binding domestic emission reduction targets, including high emission industries and land-use change (existing forests)
- Brazilians clean tech sectors and sustainable land-use change sector is expected to grow by domestic incentives and international carbon-related investments

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Primary CER Sellers

