Centro Clima
CENTRO DE ESTUDOS INTEGRADOS SOBRE MEIO AMBIENTE E MUDANÇAS CLIMÁTICAS

The Brazilian Mitigation Program

Gaps between Mitigation Targets and Lessons Learned from Modeling

ParisTech Side Event, COP15

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Global Picture (Heller, 2009)

Global GHG Emissions in 2005 = 45 Gt CO_2eq

- BAU in 2020 = 61 Gt CO_2eq
- Pathway to long-term stabilisation of GHG concentration at 450 ppm (overshoot with concentration peak at 510 ppm, emissions peak around 50 Gt CO_2eq in 2015), 40-60% probability to limit temperature increase to 2 ºC
- -> Global Emissions in 2020 = 44 Gt CO_2eq

Prospects for abatement of 17 Gt CO_2eq in 2020:

- 5 Gt from Annex I domestic efforts
- 3 Gt from flexibility mechanisms
- 3 Gt from NAI own voluntary goals
- 6 Gt from additional NAI efforts (NAMAs)

Brazil's GHG Emissions and Mitigation Actions in 2020

GHG Emissions / Mitigation Actions Million tons CO_2eq/y	2005 Data	2020 BAU	2020 Mitigation Scenario	Reduction in 2020 M t CO_2eq	Reduction / BAU Total in 2020 - %
Land Use Change	1268	1084	415	669	24.7%
Agriculture/Husbandry	487	627	461 – 494	133 – 166	4.9 – 6.1%
Energy	362	901	694 – 735	166 – 207	6.1 – 7.7%
Others	86	92	82 – 84	8 – 10	0.3 – 0.4%
TOTAL	**2203**	**2703**	**1652 – 1728**	**975 – 1052**	**36.1 – 38.9%**

Brazil's GHG Emissions and Mitigation Actions in 2020

GHG Emissions / Mitigation Actions Million tons CO_2eq/ y	**2005 Inventory Data**	**2020 BAU**	**2020 Mitigation Scenario**	**Reduction in 2020 M t CO_2eq**	**Reduction/ BAUTotal in 2020 - %**
Land Use Change	**1268**	**1084**	**415**	**669**	**24.7%**
REDD (Amazon)				564	20.9%
REDD (Savannah)				104	3.9%
Agriculture / Husbandry	**487**	**627**	**461 - 494**	**133 - 166**	**4.9 – 6.1%**
Pastures Recovery				83 – 104	3.1 – 3.8%
Agroforestry schemes				18 – 22	0.7 – 0.8%
Low / Zero tillage				16 – 20	0.6 – 0.7%
Biological nitrogen fixation				16 – 20	0.6 – 0.7%

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GHG Emissions / Mitigation Actions Million tons CO_2eq / y	**2005 Inventory Data**	**2020 BAU**	**2020 Mitigation Scenario**	**Reduction in 2020 M t CO_2eq**	**Reduction/ BAUTotal in 2020 - %**
Energy	**362**	**901**	**694 - 735**	**166 - 207**	**6.1 – 7.7%**
Energy Efficiency				12 – 15	0.4 – 0.6%
Biofuels Increase				48 – 60	1.8 – 2.2%
Hydropower Increase				79 – 99	2.9 – 3.7%
Renewable power (SHPs, Biomass, Wind)				26 - 33	1.0 – 1.2%
Others	**86**	92	82 - 84	8 - 10	0.3 – 0.4%
Industrial Processes	37				
Waste	49				
Renewable Charcoal				8 - 10	0.3 – 0.4%

Next Steps :
Monitoring and Reporting

- Total emissions in 2020 : from 22.6% growth in BAU to 22-26% decrease compared to 2005

- Forest protection : mostly domestic efforts
- Amazon deforestation in BAU 2020 = 1996-2005 average = 1.95 M ha /year
- Amazon deforestation in 2007 = 1.2 M ha
- Amazon deforestation in 2008 = 0.7 M ha
- Mitigation scenario 2020 = 0.4 M ha / y

Next Steps :
Monitoring, Reporting and Verification

- Energy emissions growth = 3.5% p/y in 1990-2005 with GDP at 2.6% p/y
- Elasticity En.Em/GDP = 1.35 in 1990-2005
- Energy emissions in BAU 2020 = 2.5 x emissions in 2005 (6.3% per year)
- Official GDP growth targets : 4 to 6% p/y
- Elasticity En.Em/GDP in 2005-2020 = 1.05 to 1.57 (with 4.7% p/y of GDP growth, elasticity = 1.35 as in 1990-2005)
- Financial support to NAMAs

Total CO_2 Emissions from the Energy System