



The GHG emissions pathways and targets in Brazil: 1990 - 2013

Land Use Change Sector

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Land Use Change

GHG Emissions 1990-2013



Technical Team

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Presentation Layout

1. Scope of the survey
2. Sources of GHG
3. Characteristics of the Sector
4. Results
5. Trajectory, Goals, and Commitments



Emissions	Greenhouse Gas		
	CO2	CH4	N2O
Deforestation			
Liming			
Burning of Forest Residues			
Removals			
Protected Areas			

- Includes:
- First order emissions
 - Deforestation (Agricultural/Cattle Ranching)

- Non-included:
- Second order emission

First order Emission: simplified method which assumes that 100 % of the emissions occur at the time of the change.

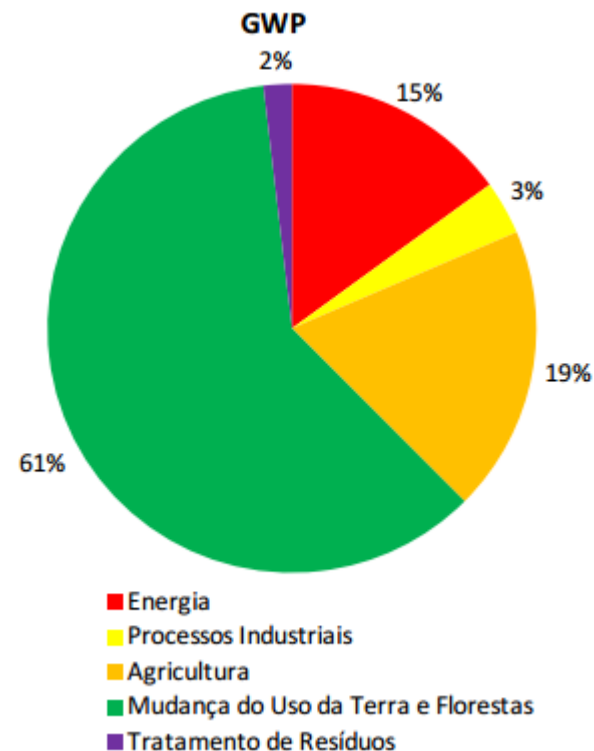
Second order emissions: more robust method that represents the gradual release process / carbon absorption

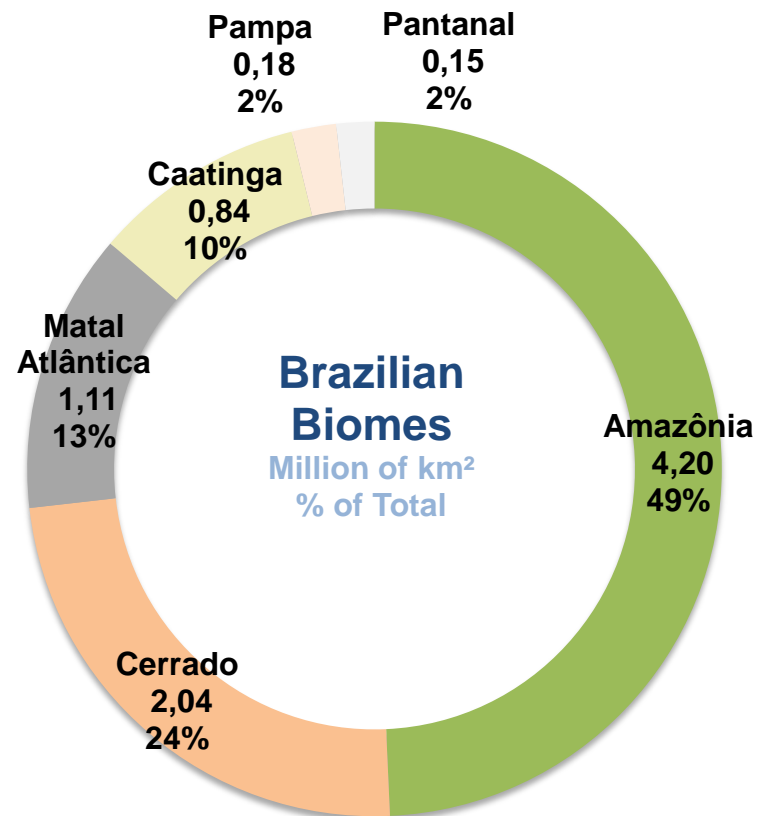
Land Use Change Sector

Emissions associated with the variation in the amount of carbon (biomass , soil, limestone in agriculture)

Removals related to the growth of vegetation and the presence of forests in protected areas.

CO2 Emissions in 2005







1994



2002

Mapping Scale 1:250.000

Abreviatura Categoria

FNM	Floresta não manejada
FM	Floresta manejada
FSec	Floresta secundária
CS	Floresta com extração seletiva
Ref	Reflorestamento
GNM	Campo não manejado
GM	Campo manejado
GSec	Campo com vegetação secundária
Ap	Pastagem plantada
Ac	Área agrícola
S	Área urbana
A	Rios e lagos (área não manejada)
Res	Reservatórios (área manejada)
O	Outros usos
NO	Área não observada

Tabela 5 - Matriz de transições possíveis

		2002														
		FNM	FM	FSec	Ref	CS	GHM	GM	GSec	Ap	Ac	S	A	Res	O	NO
1994	FNM															
	FM															
	FSec															
	Ref															
	CS															
	GNM															
	GM															
	GSec															
	Ap															
	Ac															
	S															
	A															
	Res															
	O															
	NO															

Cross tabulation Matrix: cells in gray represent the non-permissible transitions

Deforestation Data Available to Estimate the GHG Emissions from 1990-2013

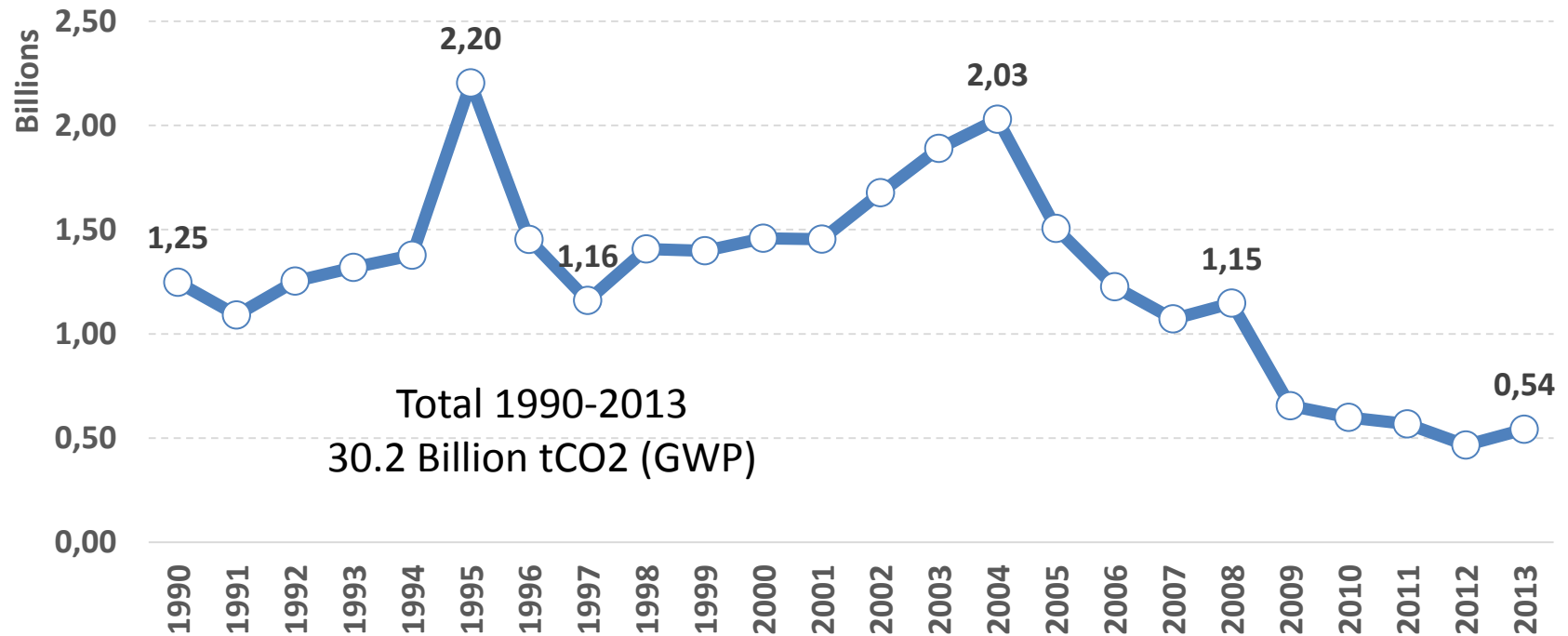
Biome	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Source
Amazônia															PRODES
Caatinga															PMDBBS
Cerrado															PMDBBS and Lapig
Mata Atlântica															PMDBBS / SOS Mata Atlântica
Pampa															PMDBBS
Pantanal															PMDBBS

Transition Forest - Deforestation

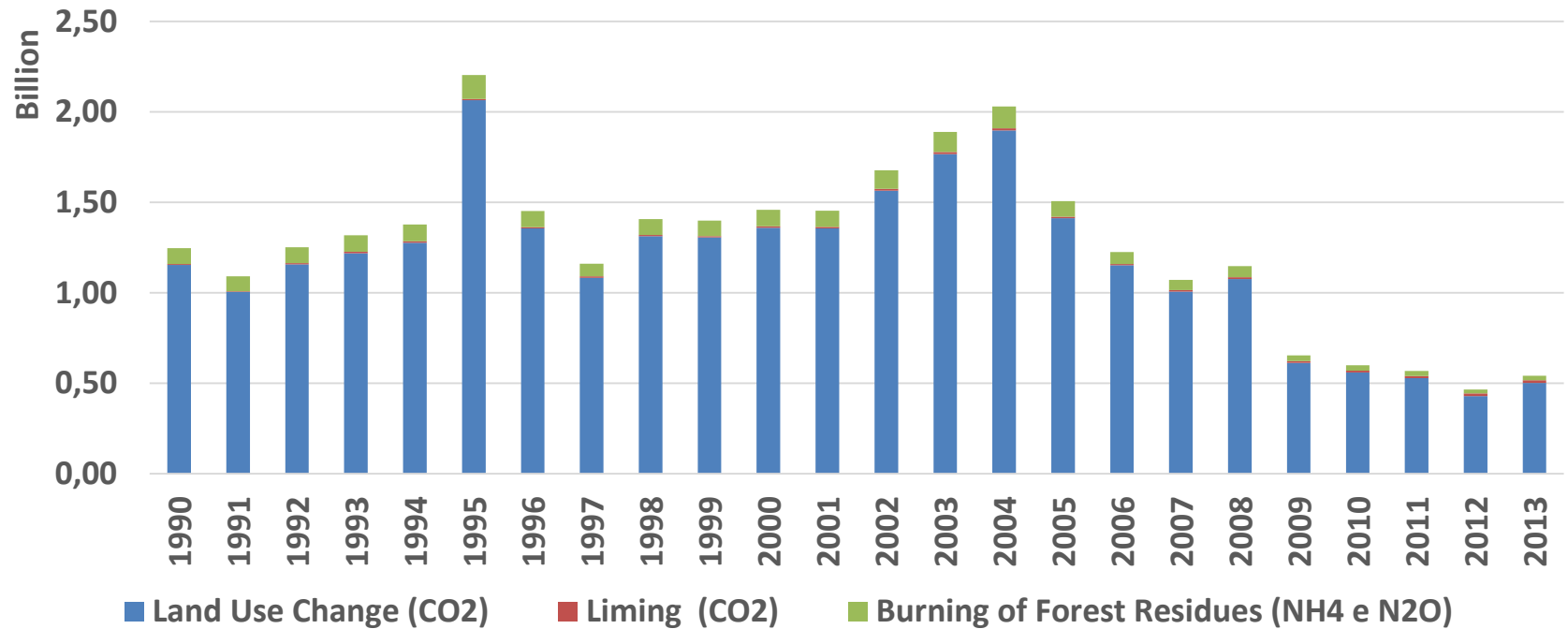
- Estimated Annual Deforestation Rate (km²/n years)**
- Mapped Deforestation Rate (km²/year)**



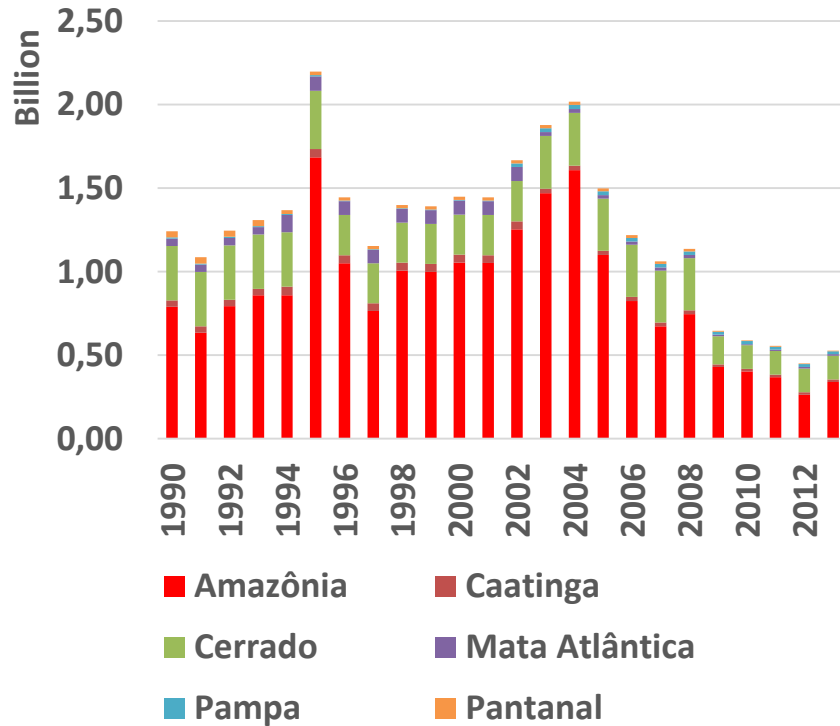
Emissions of GHG (LUC) : 1990-2013 (tCO₂ GWP)



Emissions of GHG (LUC), 1990-2013 (tCO₂ GWP): by Gas



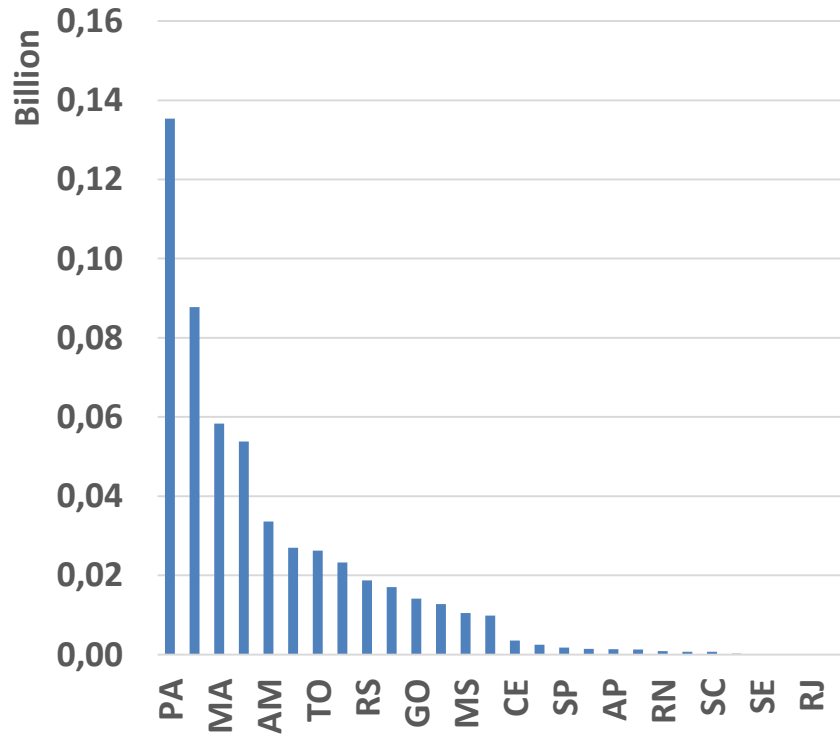
Emissions of GHG (LUC), 1990-2013
(tCO2 GWP): by Biome



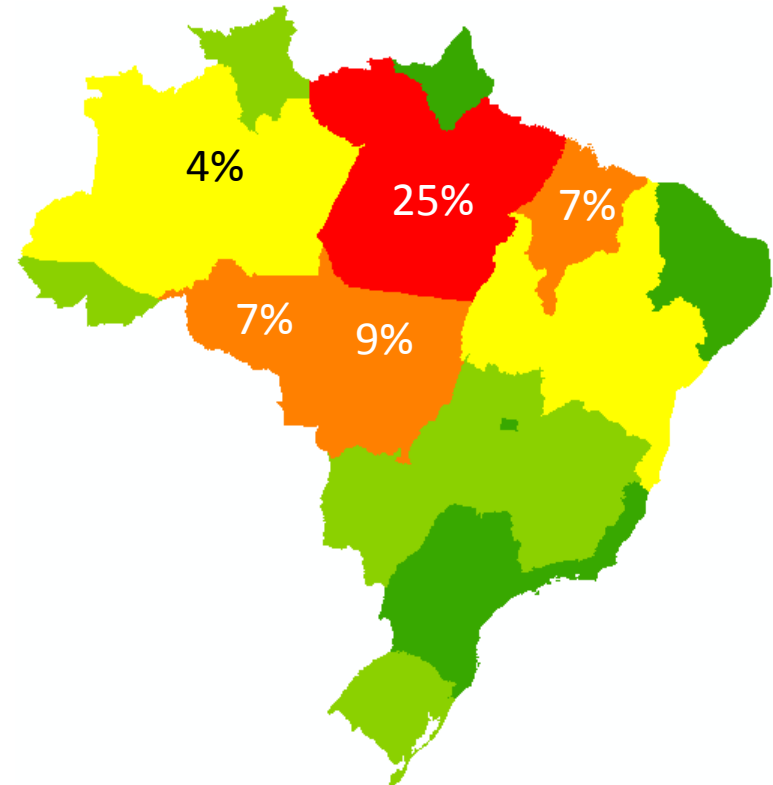
Proportion of the Total GHG Emissions
(%): 1990-2013



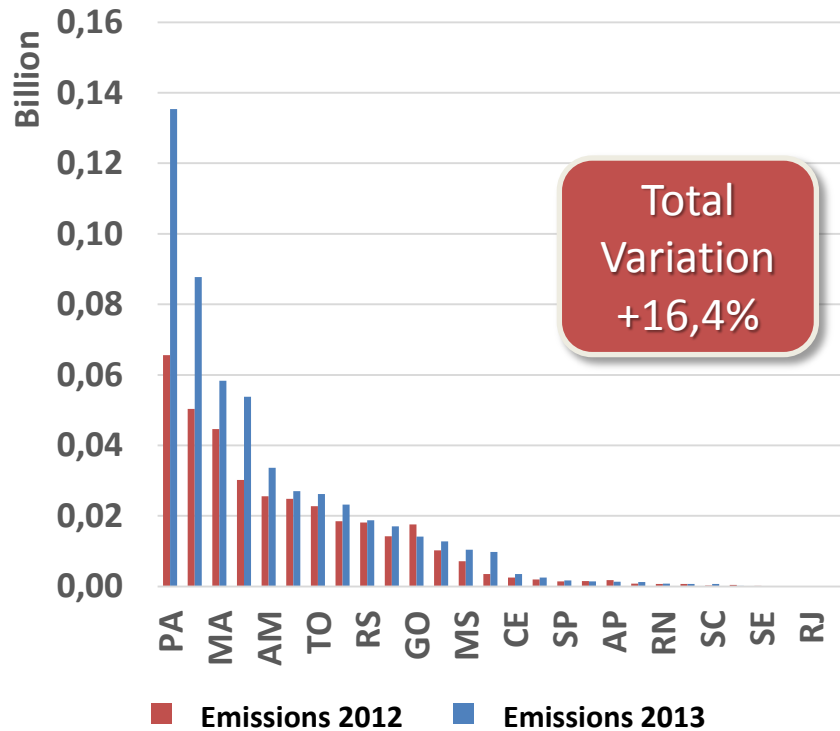
Emissions of GHG (LUC) in 2013
(tCO2 GWP): by State



Proportion of GHG Emission in 2013 (%)



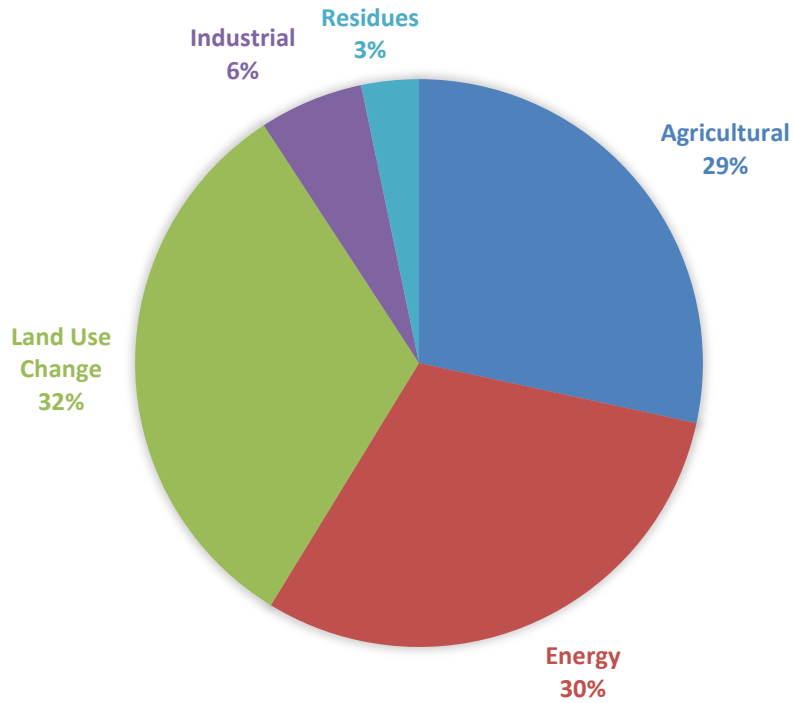
**GHG Emission: variation 2012-2013
(tCO2 GWP) – by State**



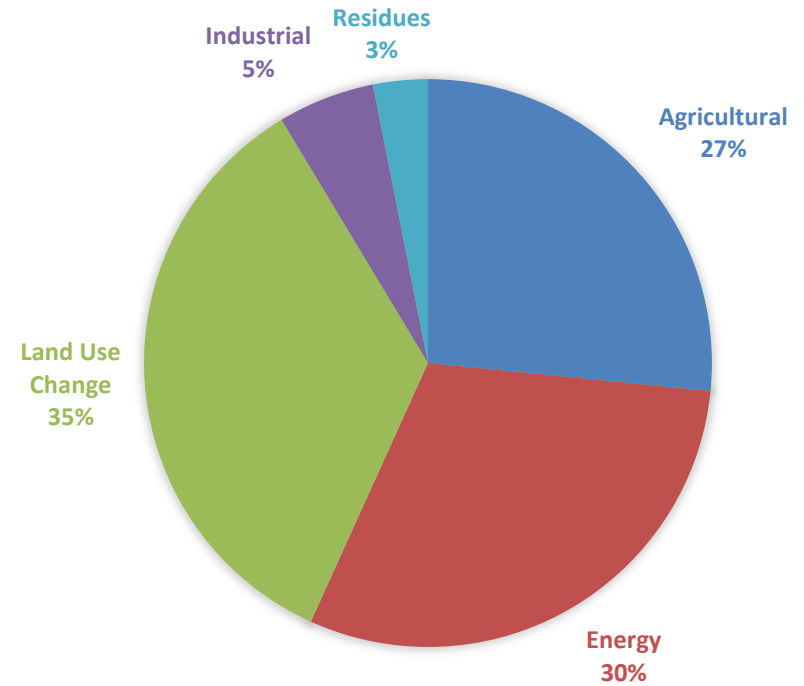
Variation 2012-2013



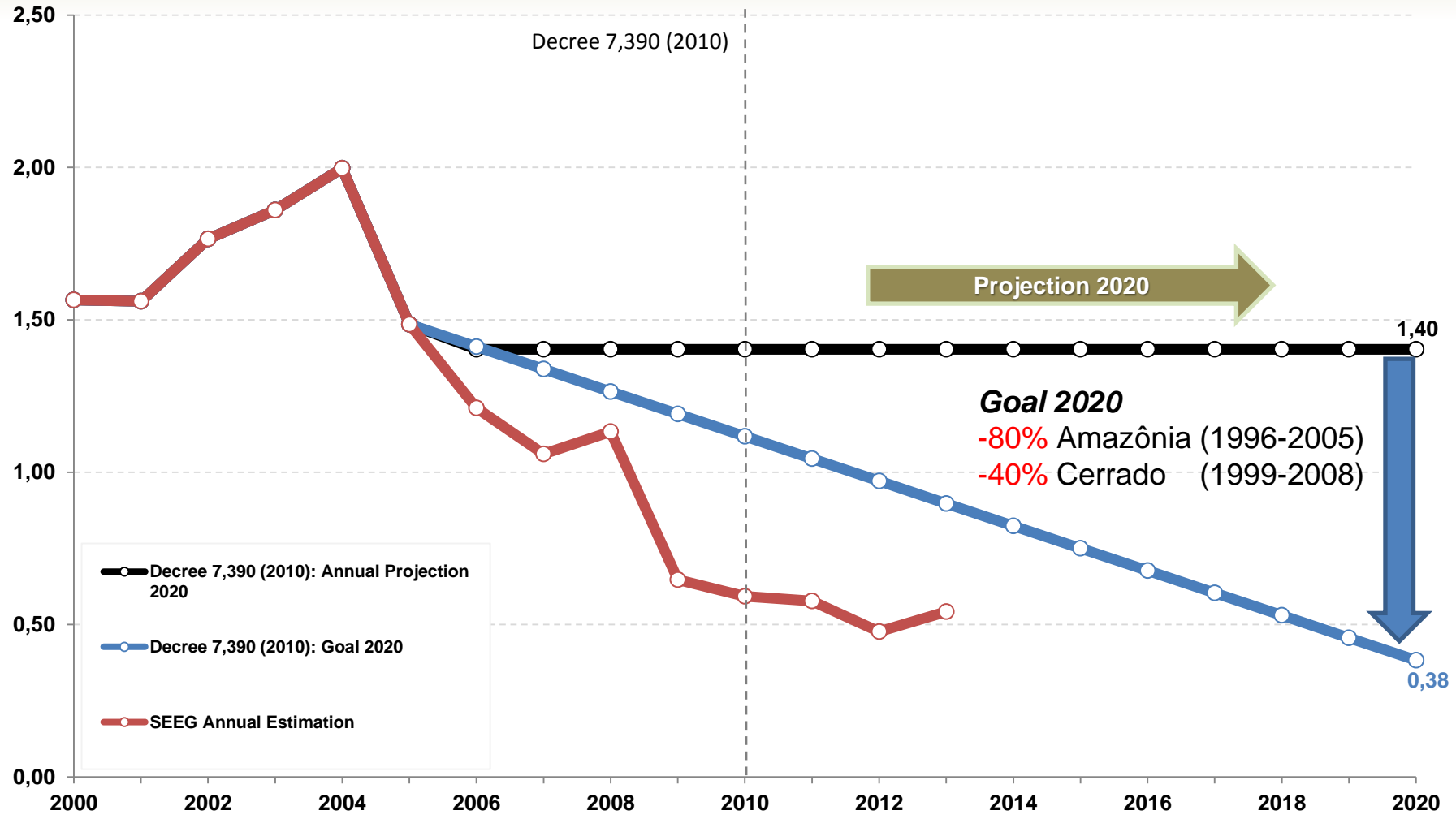
BRAZIL GHG EMISSIONS - 2012

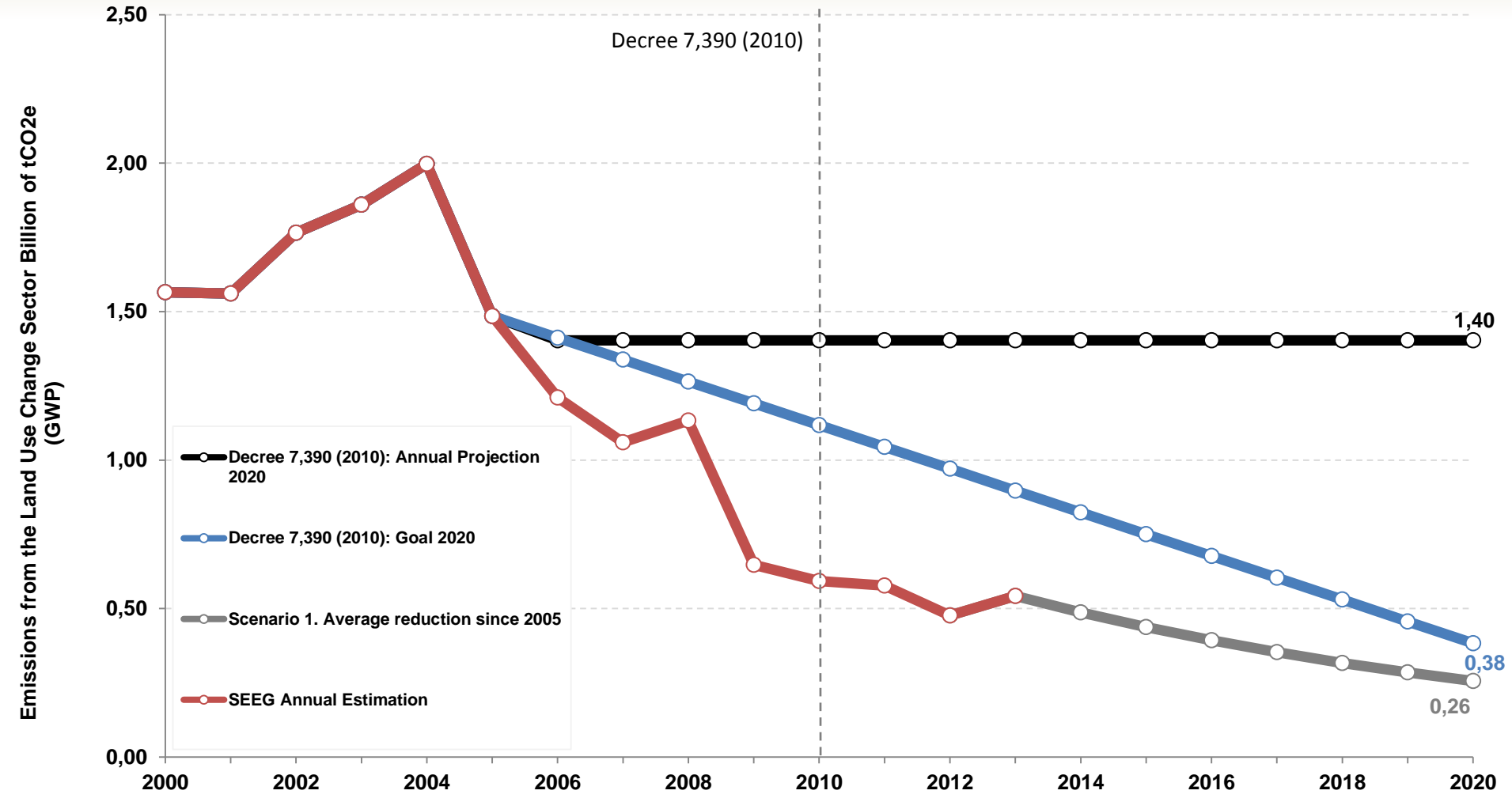


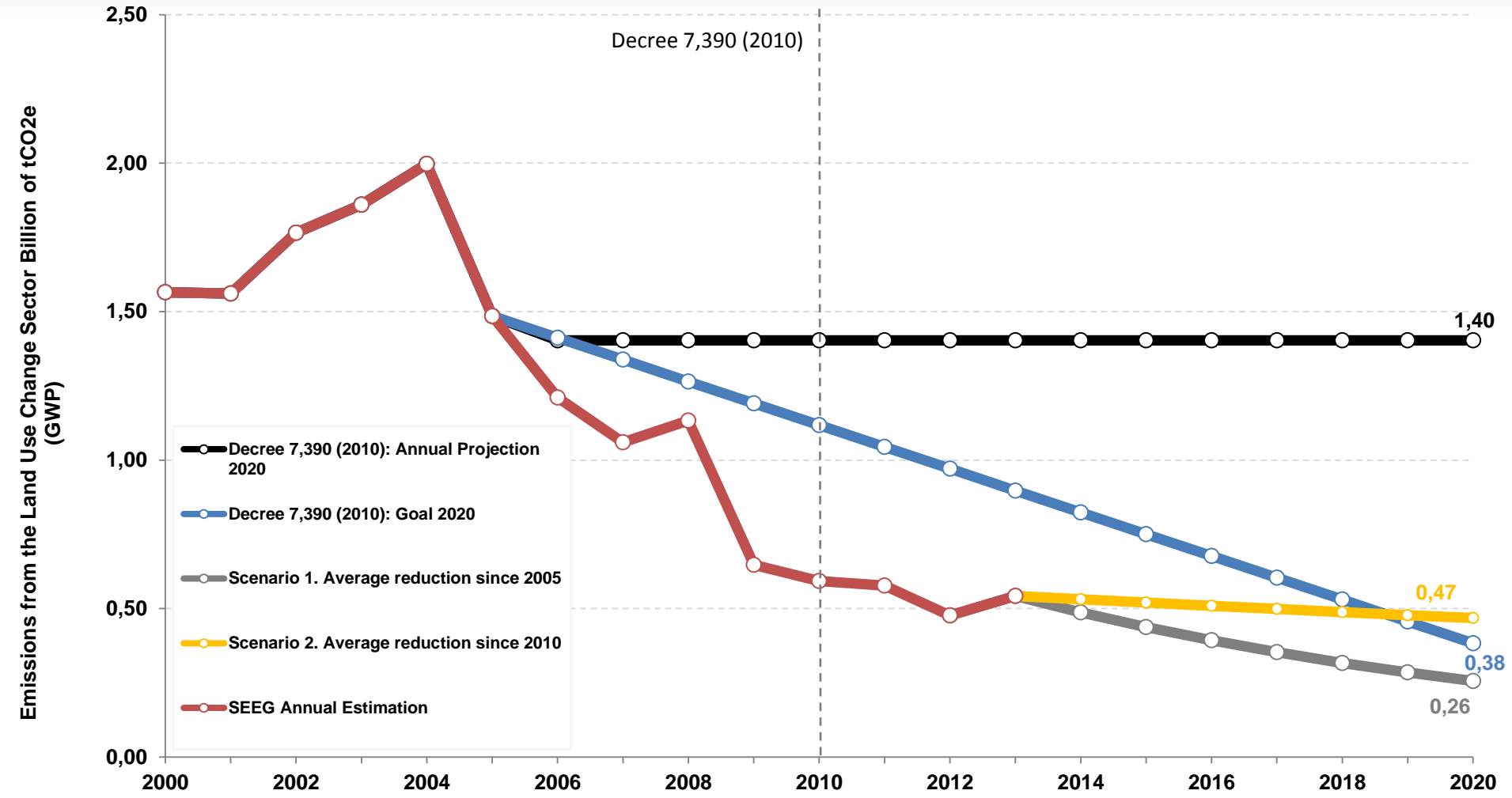
BRAZIL GHG EMISSIONS - 2013



Emissions from the Land Use Change Sector Billion of tCO2e (GWP)







Recommendations
for achieving the
2020 Goals of
reduction for the
LUC Sector

- Increase fight against Deforestation in Amazônia and Cerrado
- Fight speculative deforestation
- Increase Taxes on Private Ownership (i.e. ITR)



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Thank you / Obrigado !

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