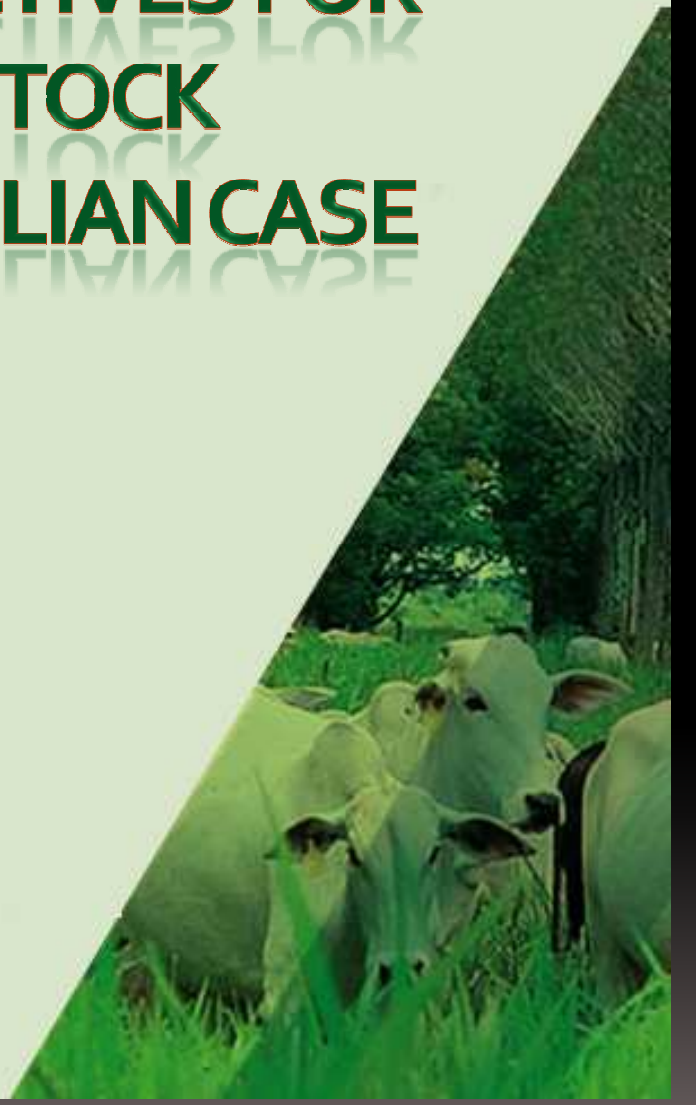
LATIN-AMERICA PERSPECTIVES FOR SUSTAINABLE LIVESTOCK PRODUCTION: THE BRAZILIAN CASE



FIRST RESPONSIBLE LIVESTOCK MEETING
BRASÍLIA, MAY 2011

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Global Perspective

- New challenges livestock systems:
  - Reconciling fast increase in food, fiber and biofuel demmand with sustainable, low carbon, agricultural production
- In Latin America this challenge is particularly important for beef production
  - > 2/3 of agricultural land use
  - > 80% of cattle numbers and GHG enteric emissions

Traditional Brachiaria (Urochloa) x Nelore low input system

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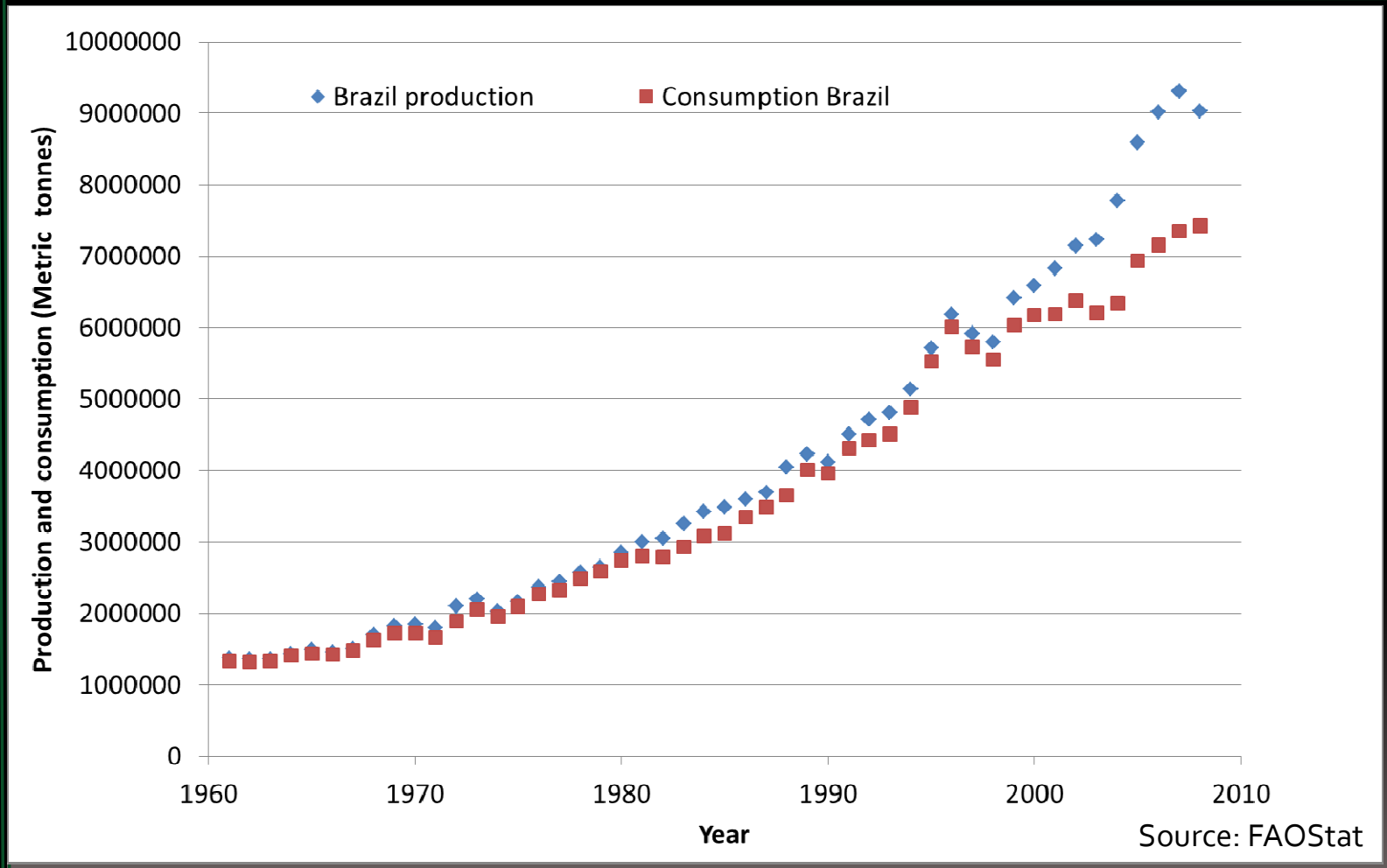
Brazilian Beef Exports



Source: FAOStat

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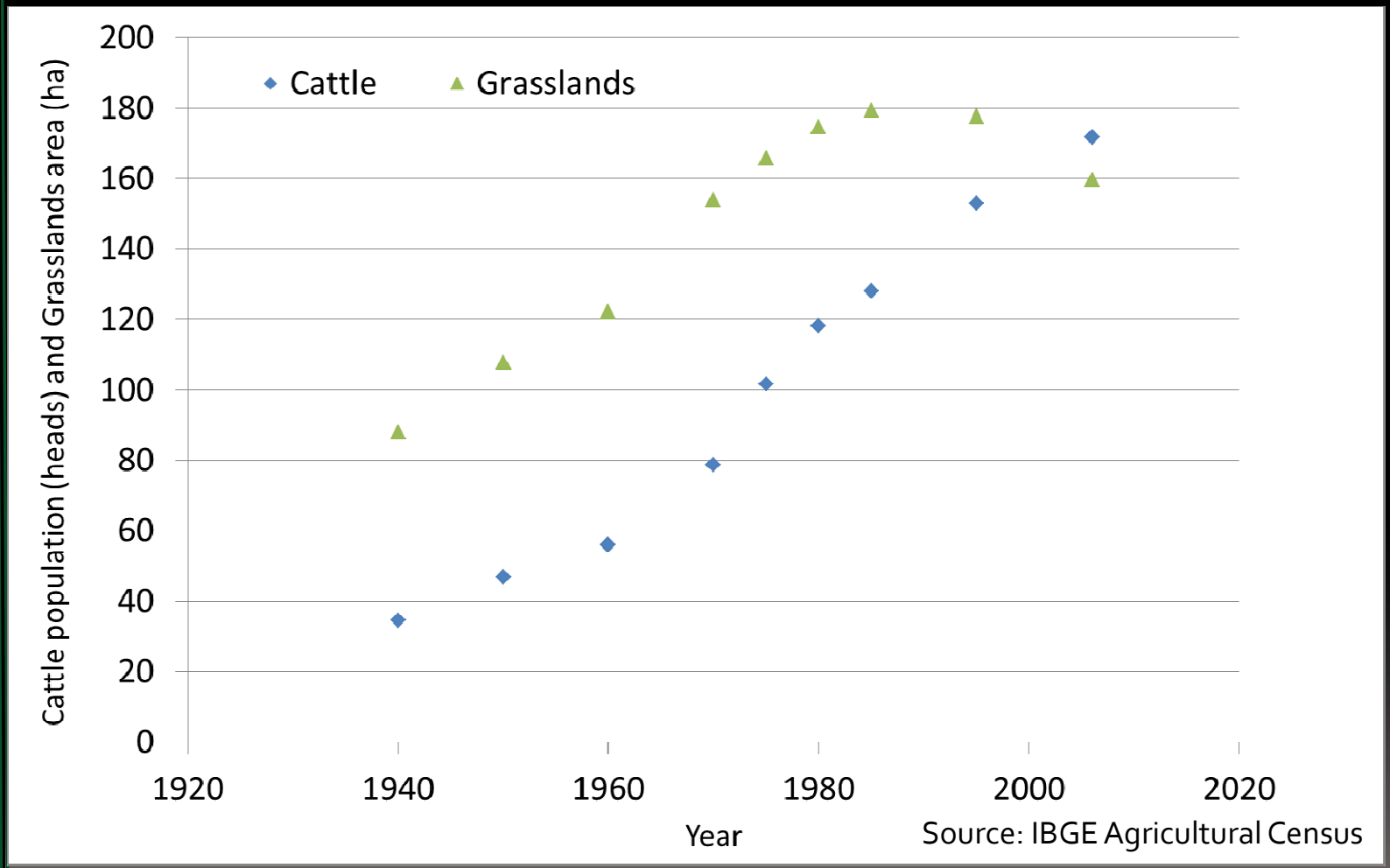
Brazilian Beef Production: Cattle population x Grassland area



Source: IBGE Agricultural Census

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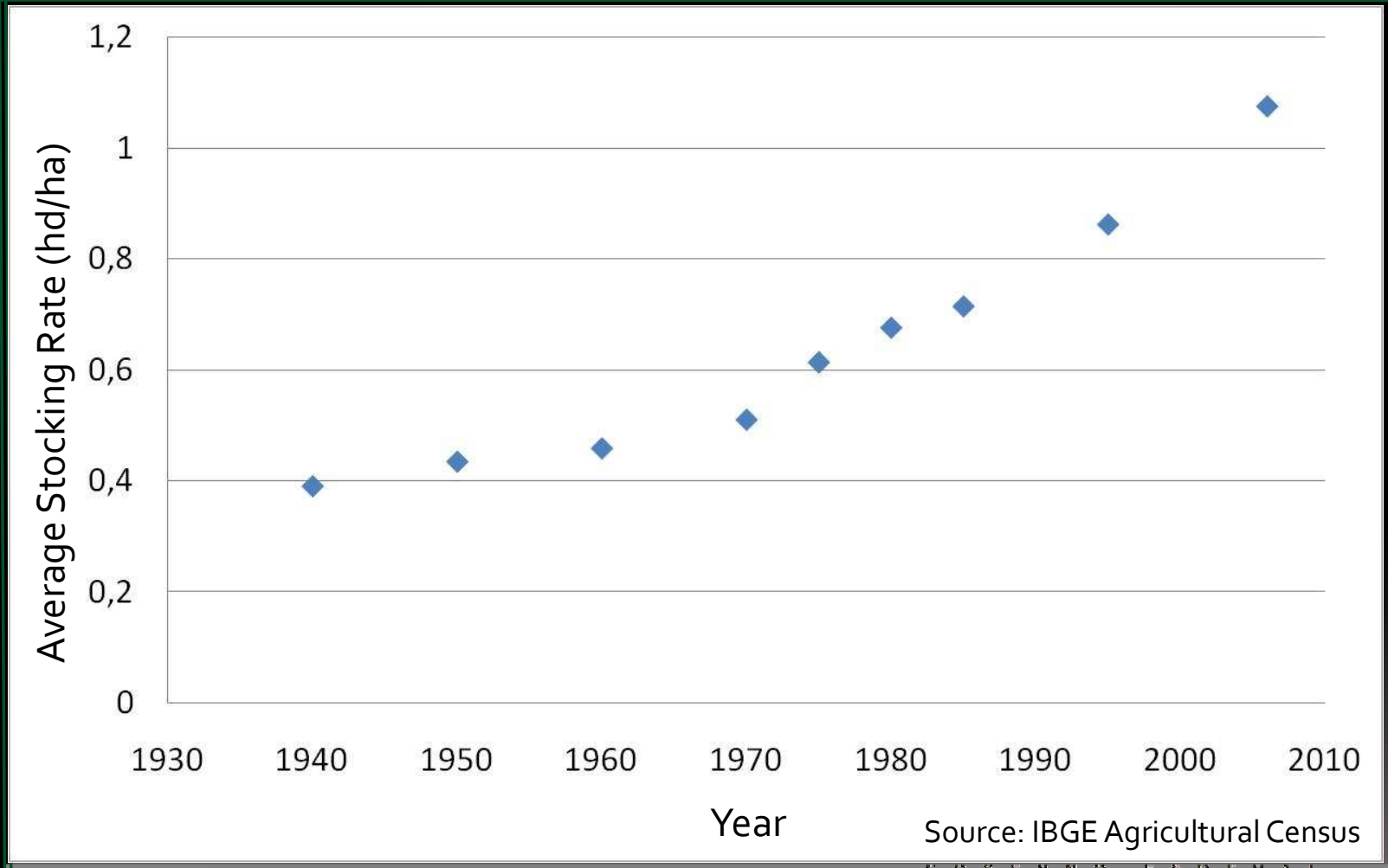
Brazilian Beef Production: Stocking Rate



Source: IBGE Agricultural Census

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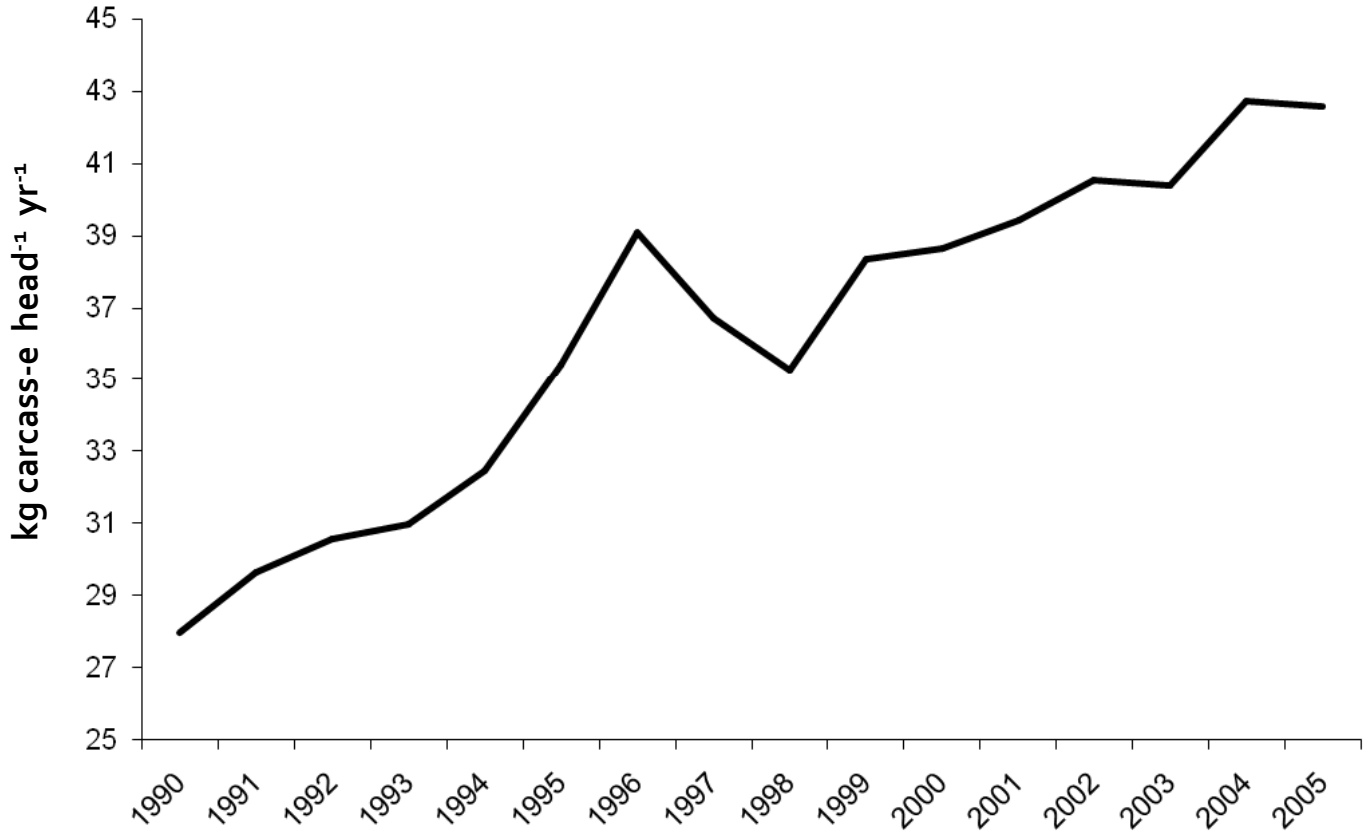
Brazilian Beef Production: Animal Performance



Source: derived from CNPC data

Increasing adoption of more productive systems, lowering GHG emissions

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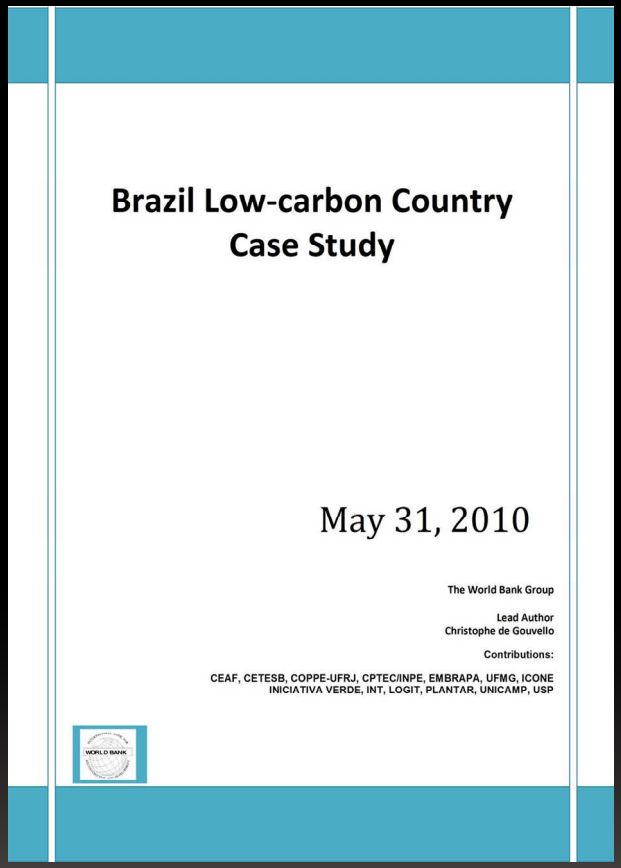
Projections for the Brazilian cattle production
(based on Low Carbon Brazil Case Study - World Bank 2010)



http://siteresources.worldbank.org/BRAZILEXTN/Resources/Brazil_LowcarbonStudy.pdf

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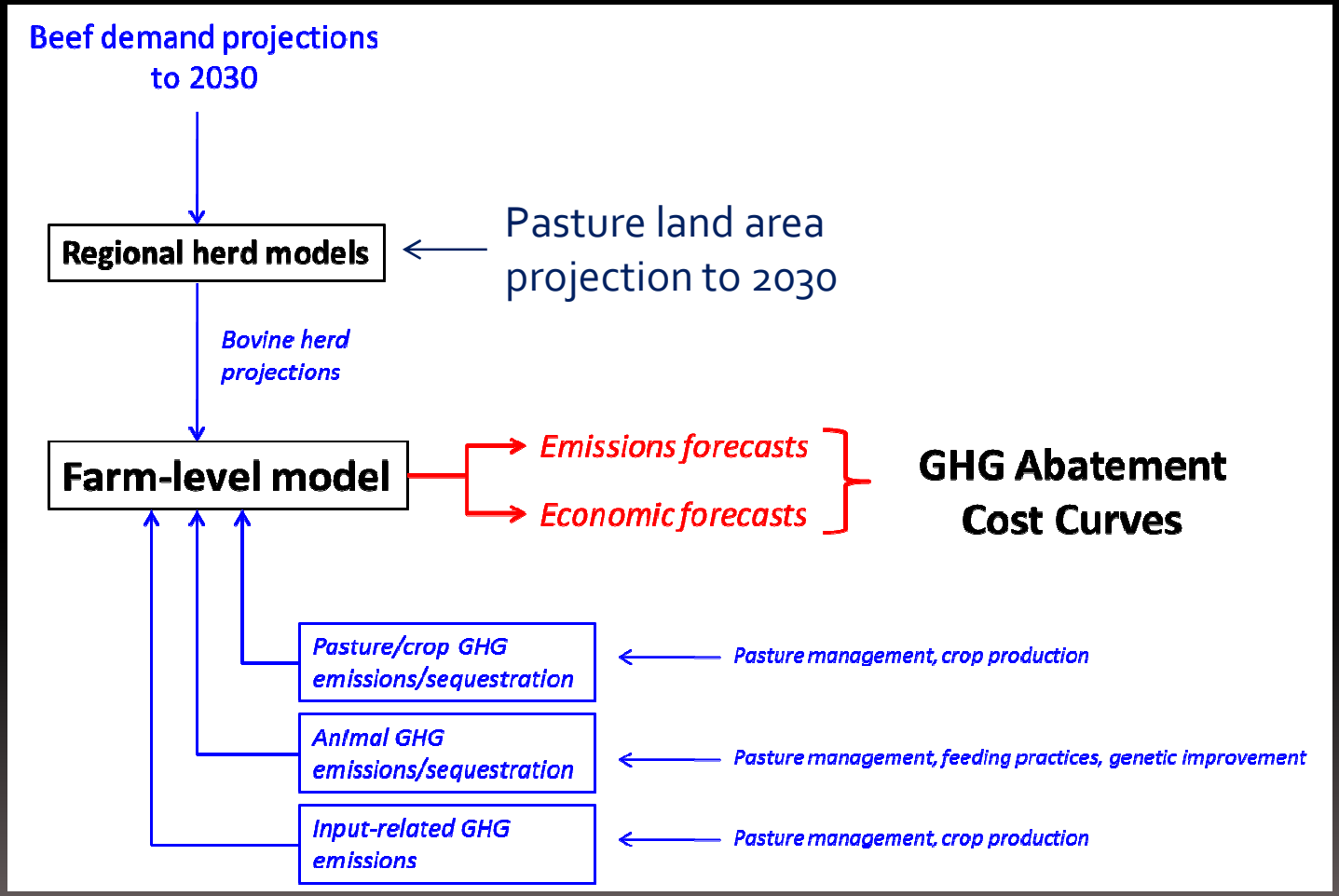
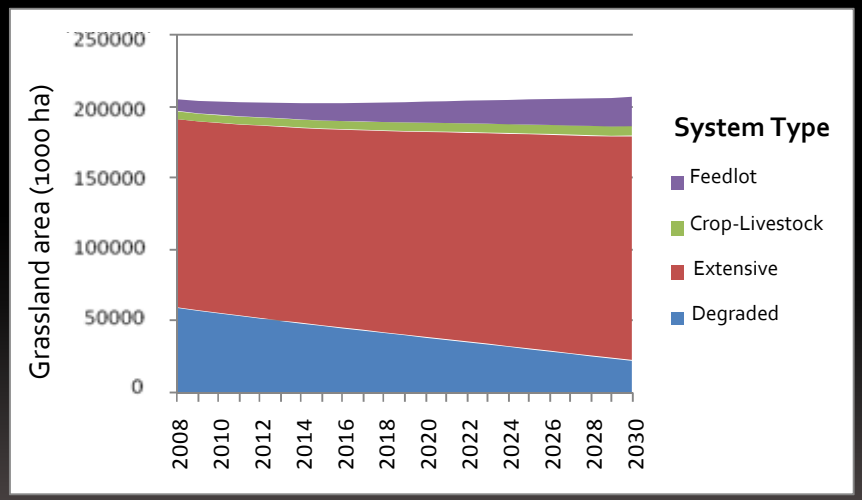
Low Carbon Brazil Case Study
World Bank (2010)



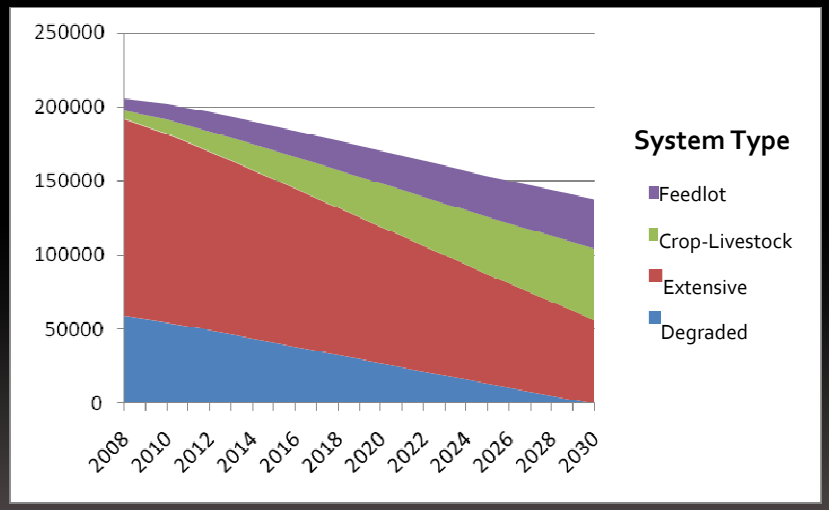
Low Carbon Brazil Case Study World Bank (2010)

Results:

Baseline Scenario



Low Carbon Scenario



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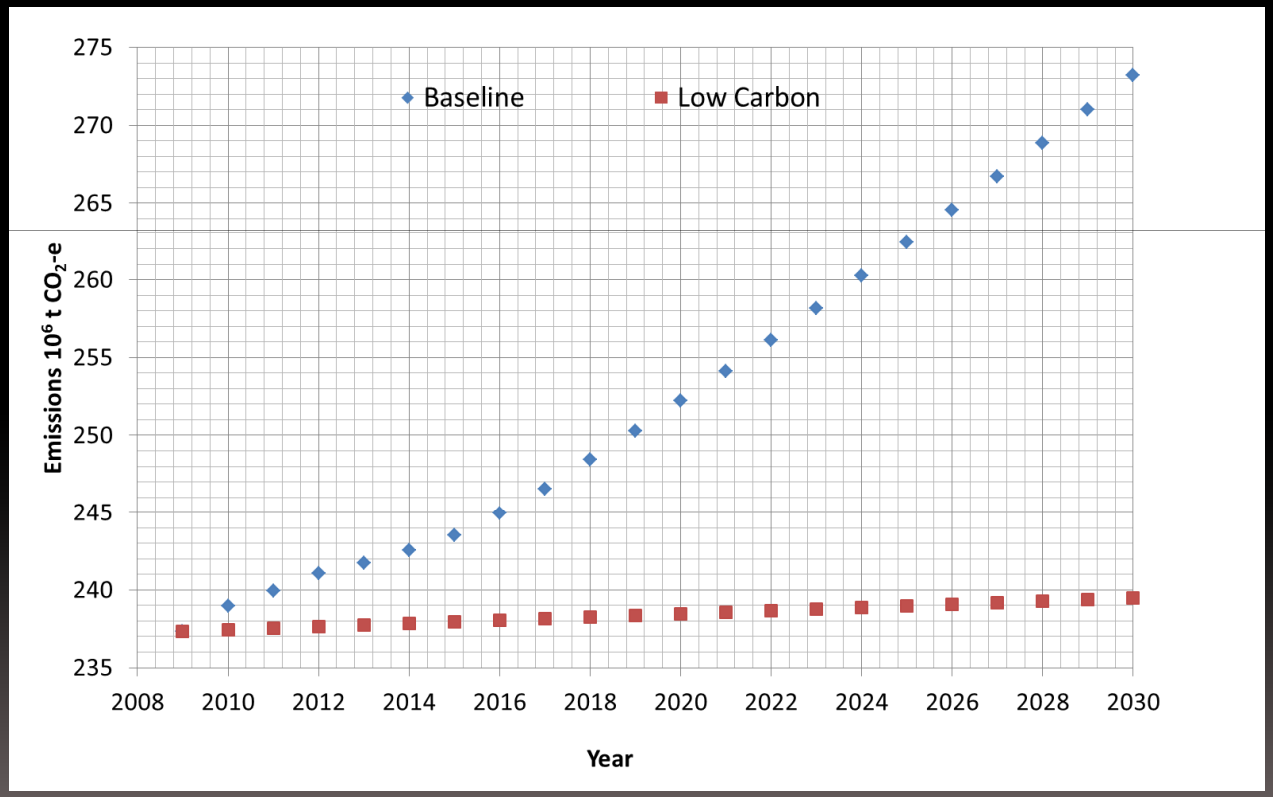

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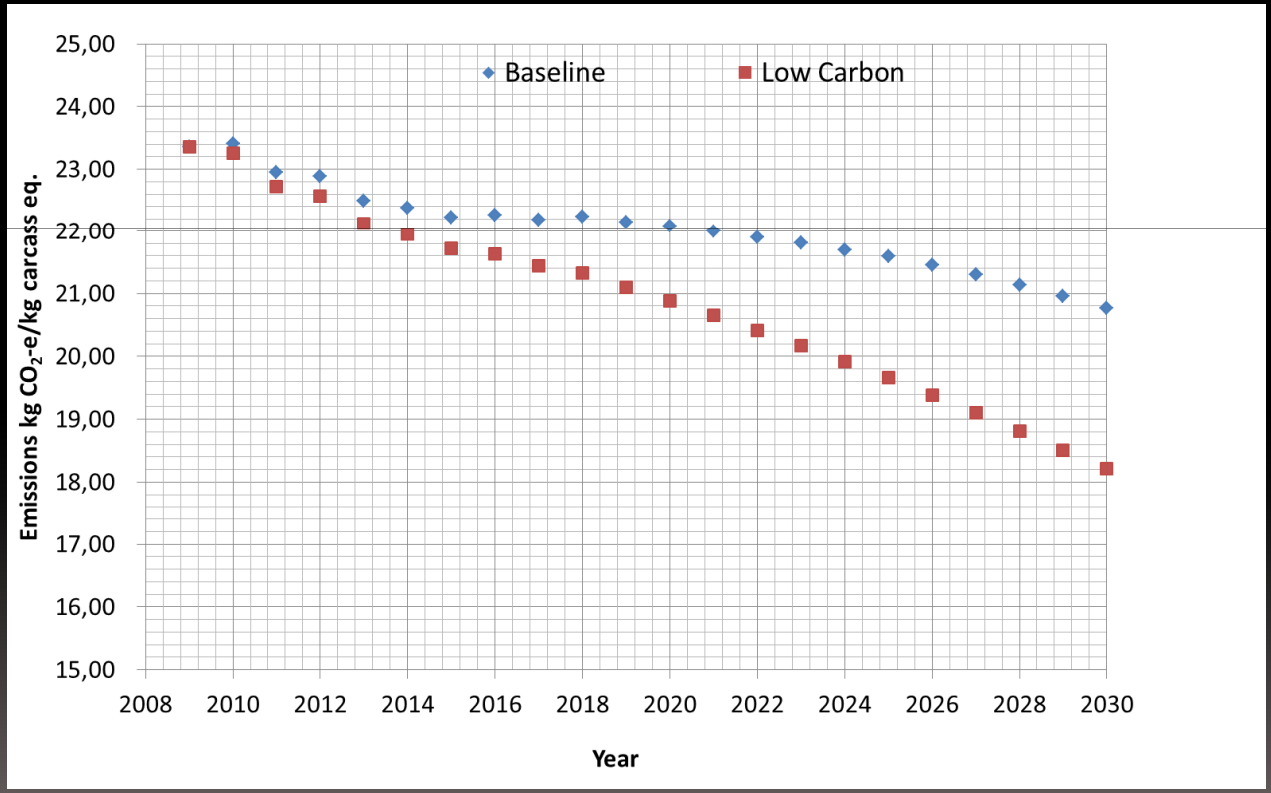

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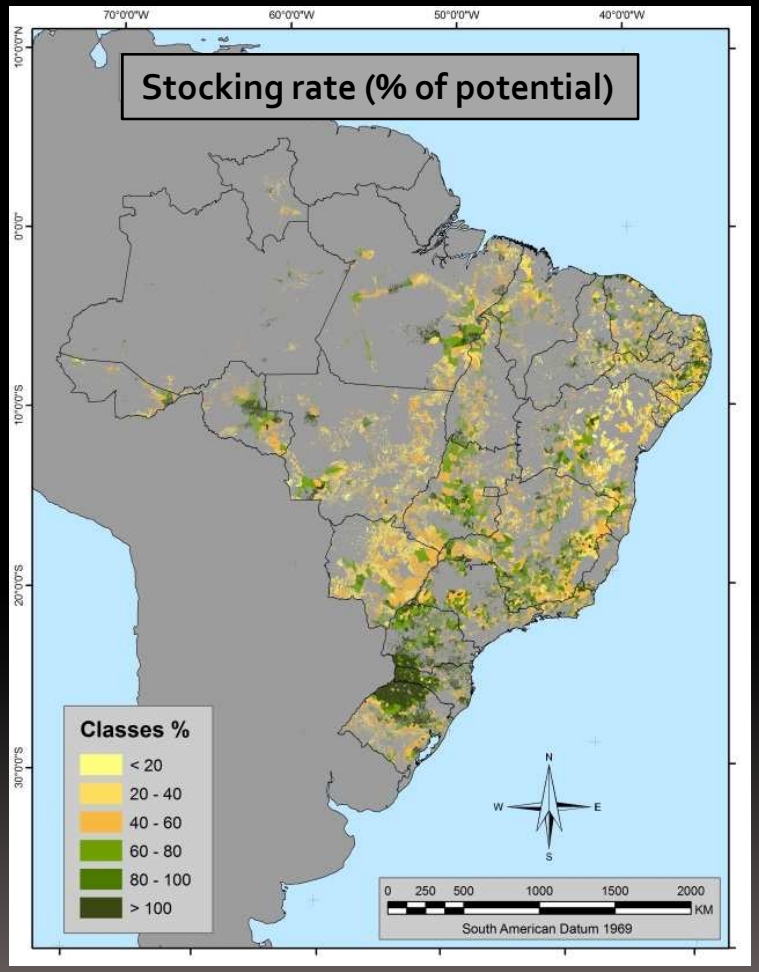
Where can we improve?



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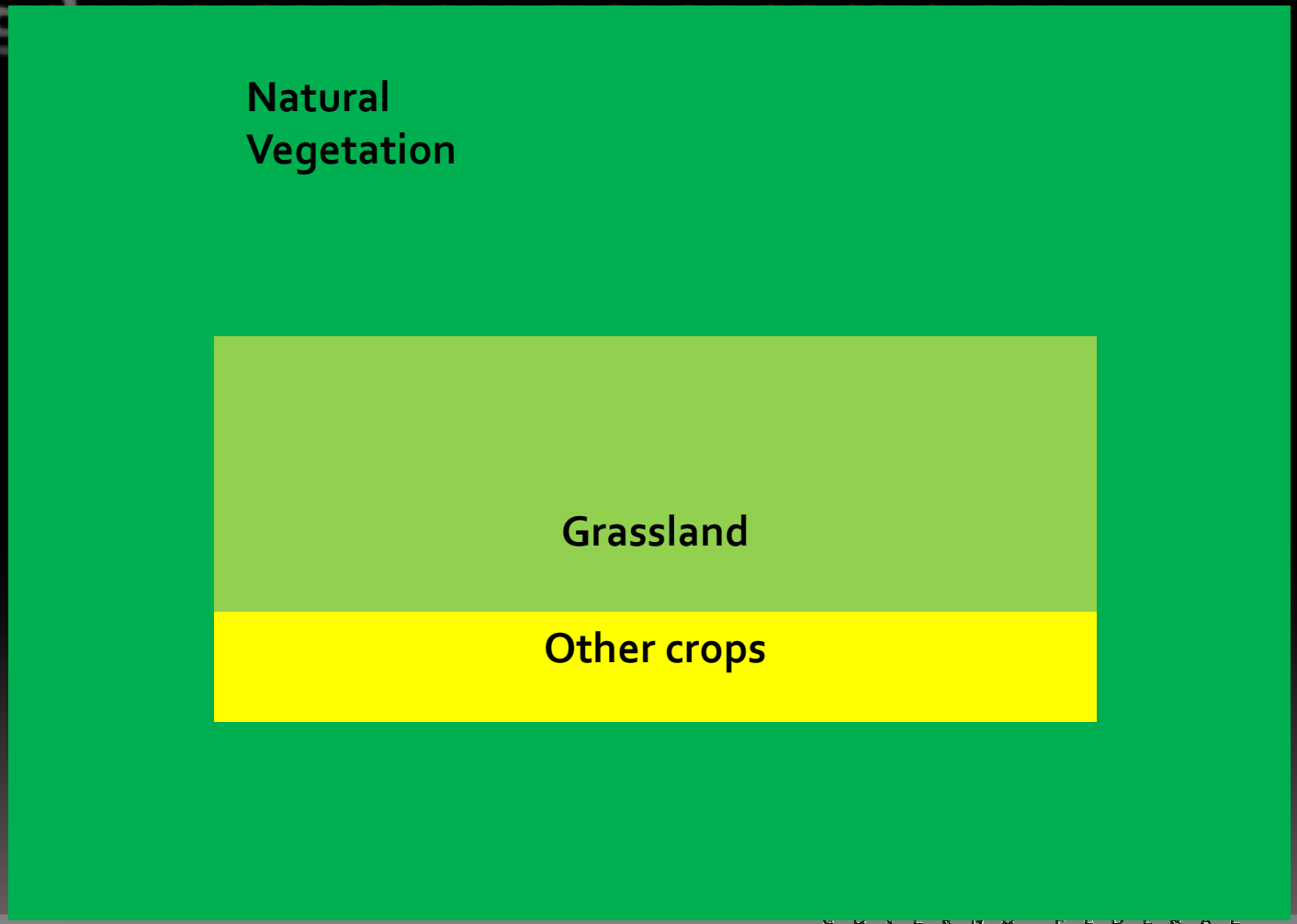
Brazilian livestock mitigation of GHG emissions

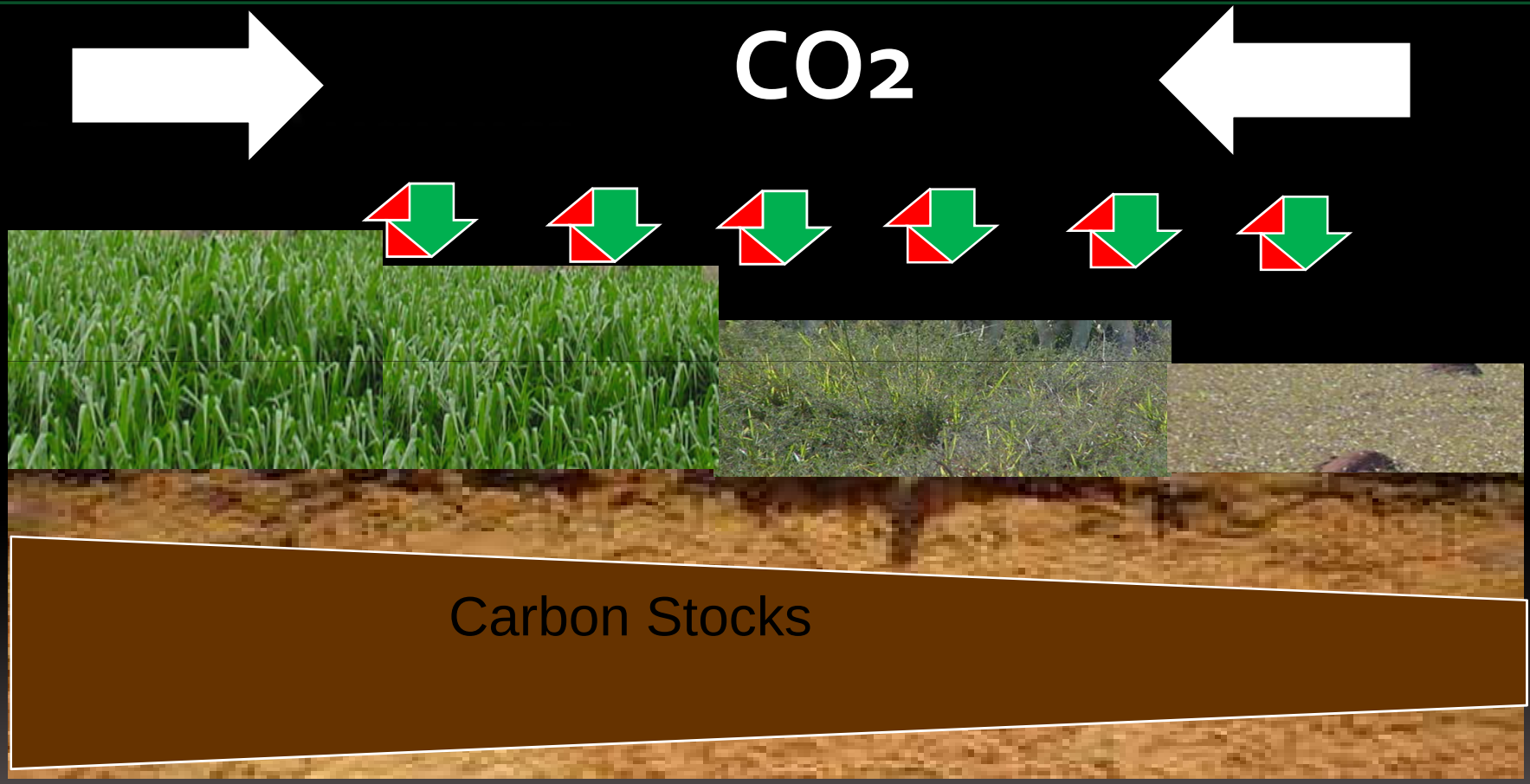
Due to intense land use and technological changes, Latin-american countries may have the oportunity to mitigate emissions by:

1. Buffering agricultural expansion and avoiding deforestation
2. Increasing soil carbon stocks
3. Reducing enteric methane emissions

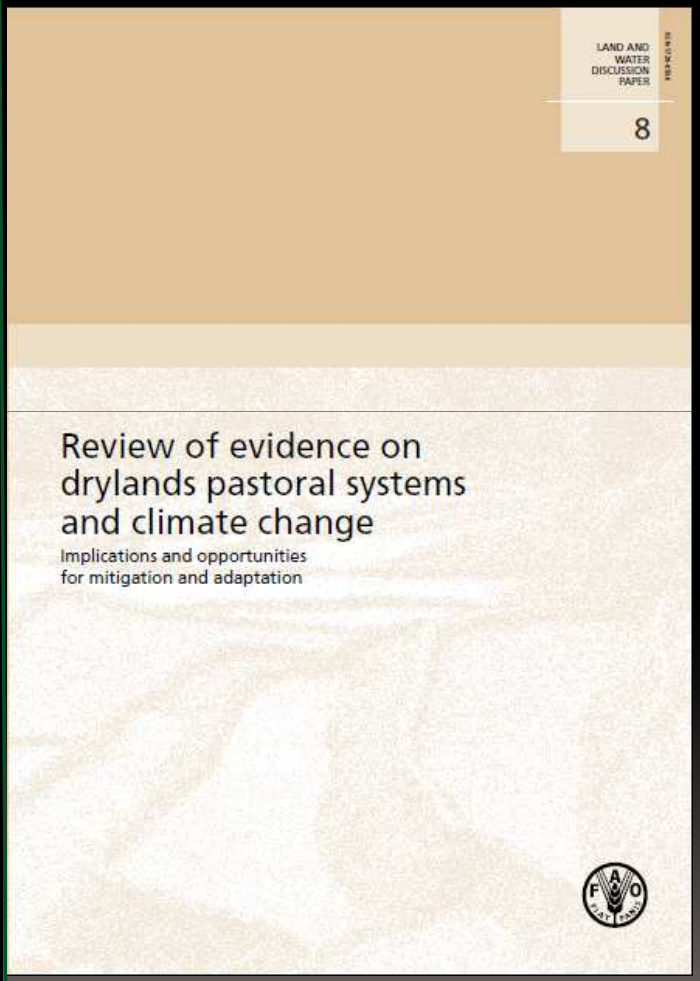
Buffering the effect of expansion of agriculture on deforestation



Soil C dynamics



GHG balance in grazing livestock



"Grasslands, by their extensive nature, hold enormous potential to serve as one of the greatest terrestrial sinks for carbon"

FAO (2009)

Reduce enteric methane emissions: Changes in the Production System

Production System	Emissions per head (kg/yr)			Emissions/production (kg CO_2-e/kg carcass)	
	CH_4	N_2O	CO_2-e		
Degraded grasslands	56,38	0,20	1,25		29,65
Extensive pasture	51,71	0,22	1,15	-26%	21,89
Crop-livestock finishing	51,73	0,21	1,15	-37%	18,76
Feedlot finishing	51,53	0,21	1,15	-40%	17,64

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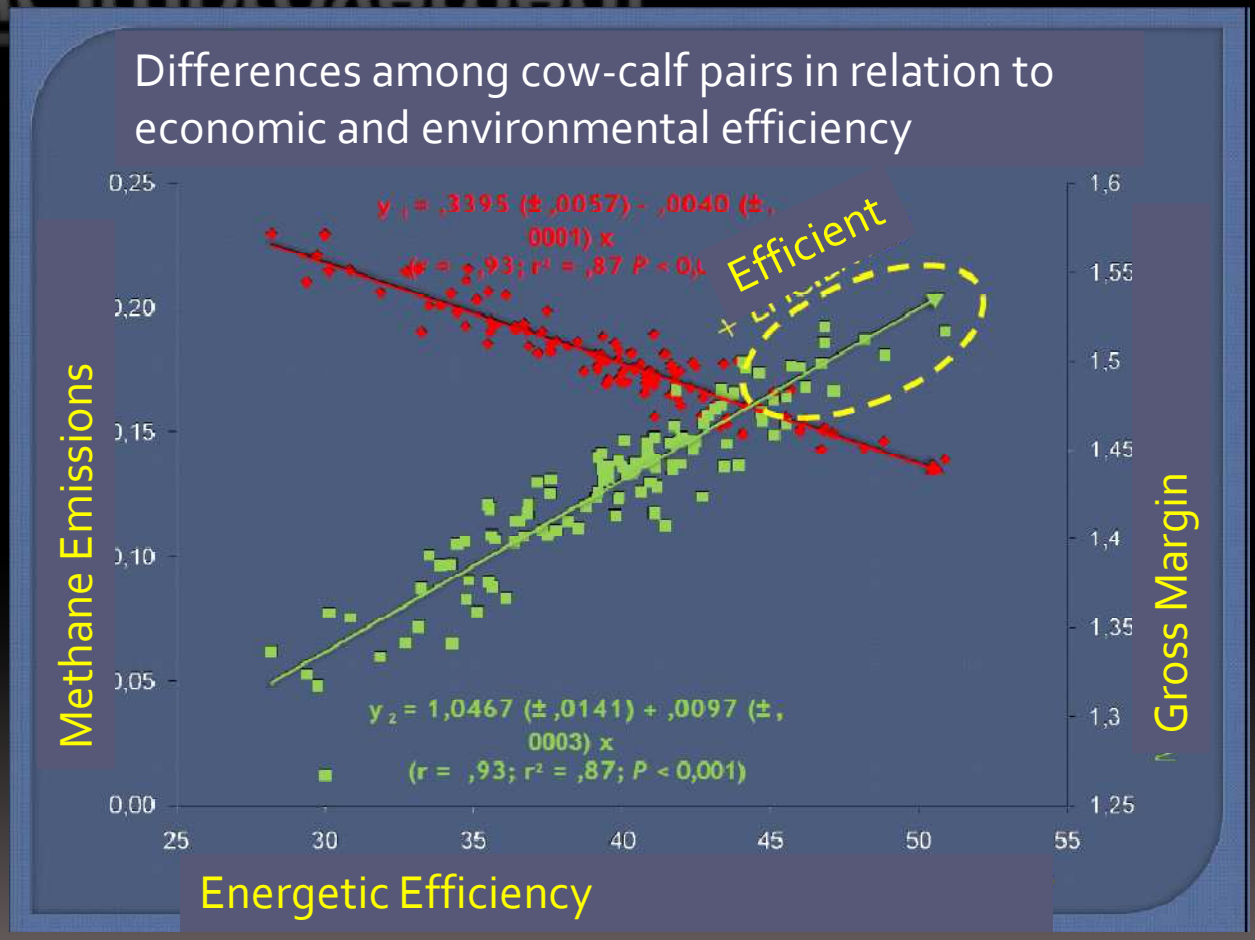
Reduced enteric methane emissions by genetic improvement



Public Policies to Encourage Sustainable Livestock Production

- Low Carbon Agriculture Program (Programa ABC) (Ministry of Agriculture Livestock and Food Supply)
- Targets to 2020:
  - Pasture reclaiming 15 million ha
  - Increasing crop-livestock systems by 4 million ha
  - GHG reduction > 120 MMTCO2-e/yr in 2020

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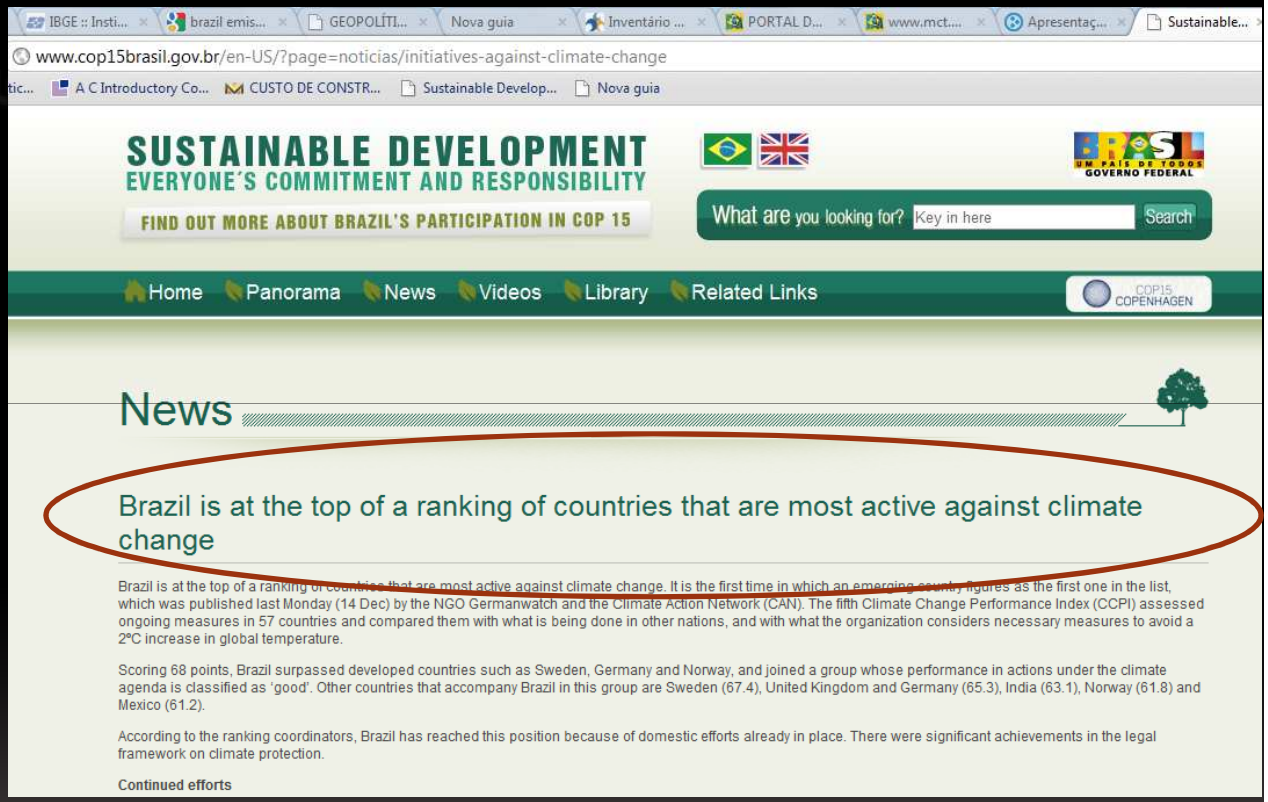
Public Policies to Encourage Sustainable Livestock Production

- Monitoring program of crop-livestock soil carbon stocks (Starting 2011)

Brazilian efforts to mitigate GHG emission in agriculture and deforestation are recognised globally

Rank	Tendency	Country	Score**	Partial Score Trend	Level	Policy
1*		–	–			
2*		–	–			
3*		–	–			
4	↗	Brazil	68.0			
5	↘	Sweden	67.4			
6	↗	United Kingdom	65.3			
7	↘	Germany	65.3			
8	↘	France	63.5			
9	↘	India	63.1			
10	↗	Norway	61.8			



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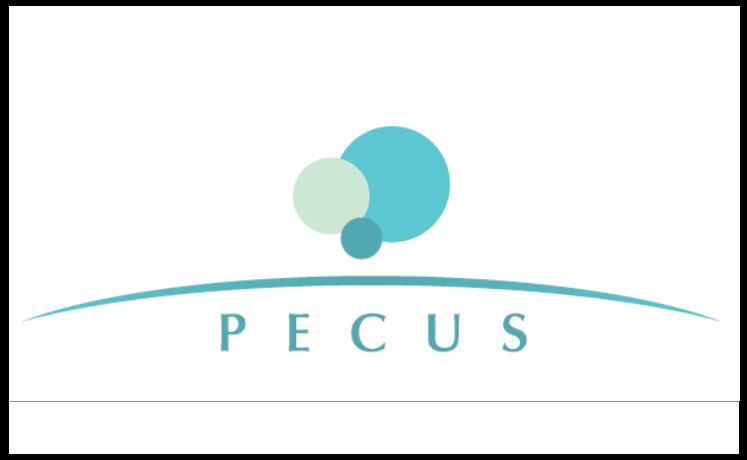
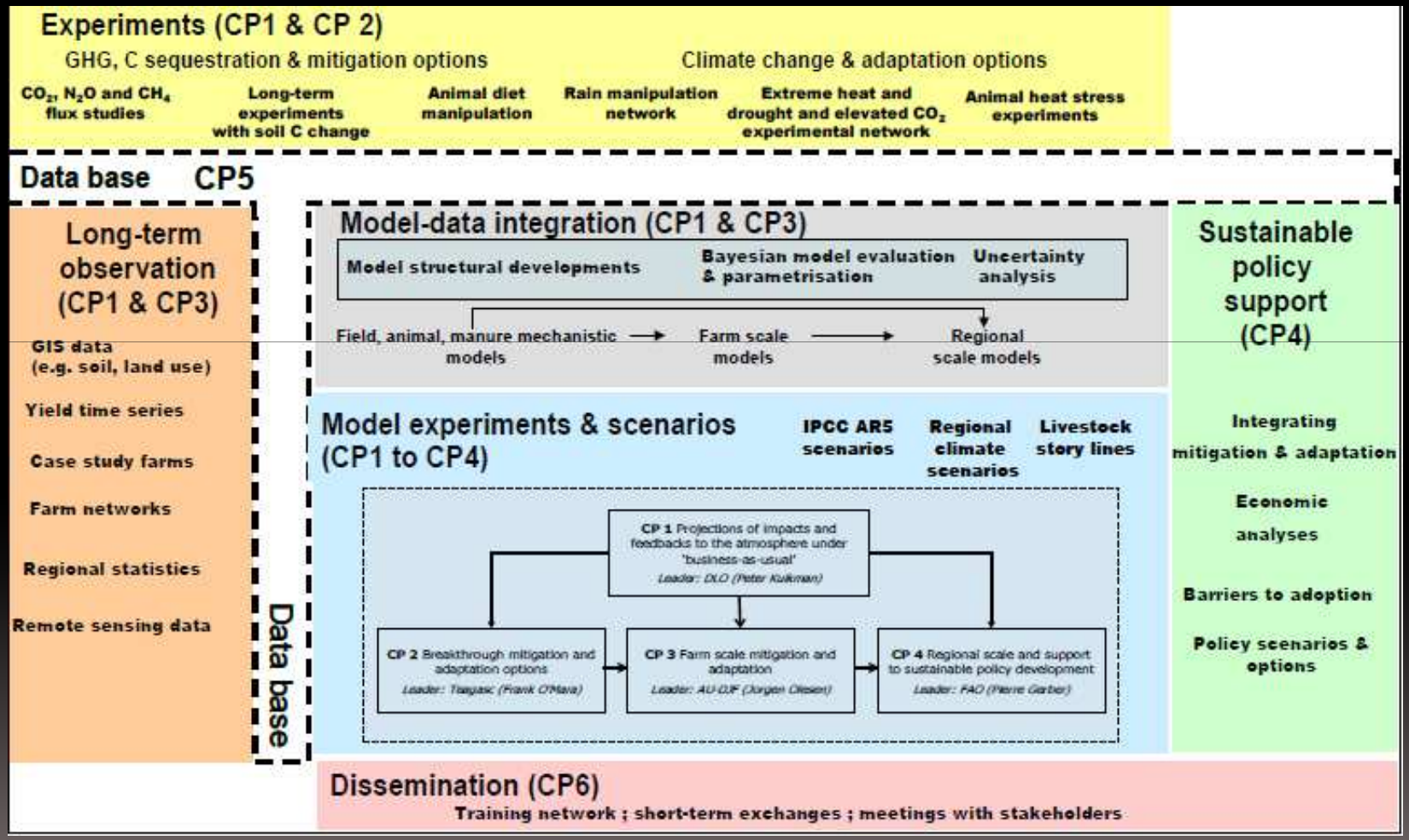
Research Projects: PECUS



- Started May 2011
- Over 300 researchers and graduate students
- Budget of > US$ 5 million
- One of the largest research projects on sustainable livestock production in the world

Research Projects: Animal Change



Concluding Remarks

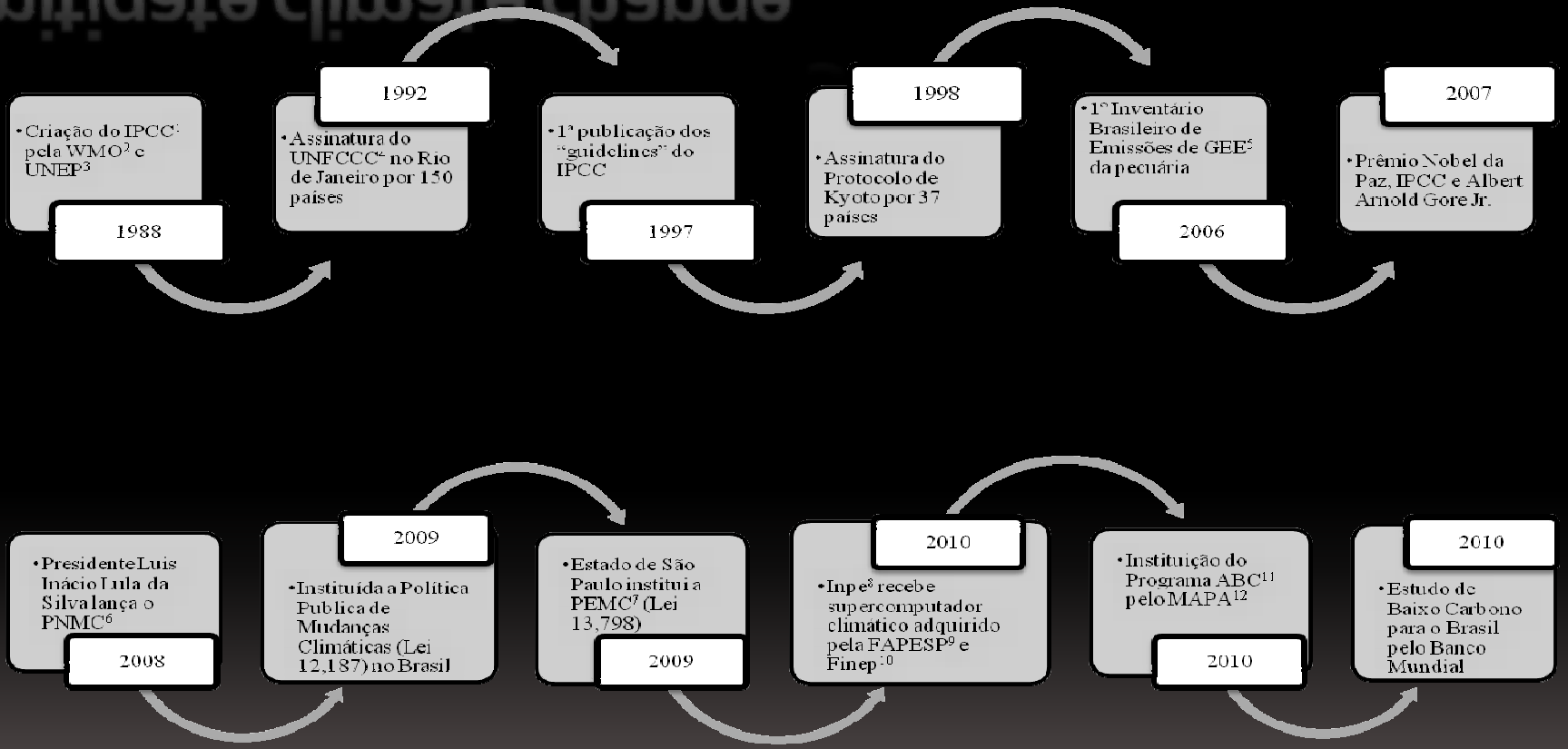
- With the current projections (until 2030), it is possible to reconcile increasing food demand and mitigation of GHG for the Brazilian case

- Land use change analysis show livestock systems improvement can be one of the most promissing alternatives for GHG mitigation by reducing direct emissions, buffering cropping expansion (avoiding deforestation) and by increasing soil carbon stocks

Concluding Remarks

- Even at "business as usual" cenarios there is a trend to improve efficiency and to reduce GHG emissions per unit of product in Brazil (probably applicable for Latin America)
- National level public policies are being implemented to drive mitigation of GHG emissions
- There is a coordinated effort to improve identification and analysis of mitigation and adaptation options for livestock production in national and international networks

Brazil is one of the leading nations in actions to mitigate climate change



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