

Example of LTS modelling: Brazil

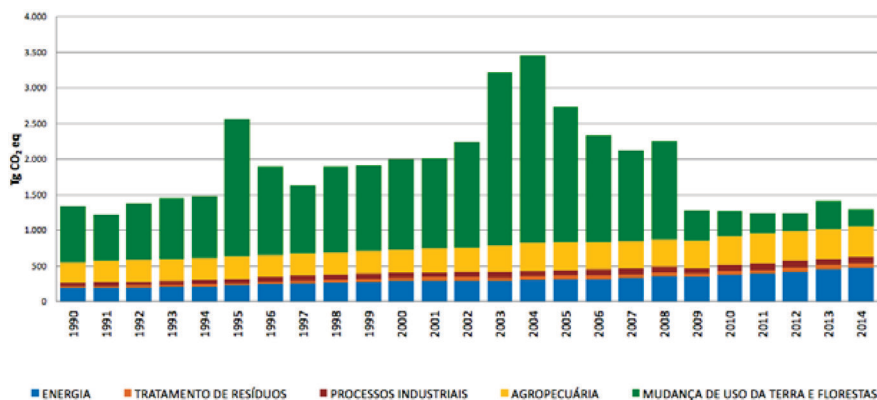
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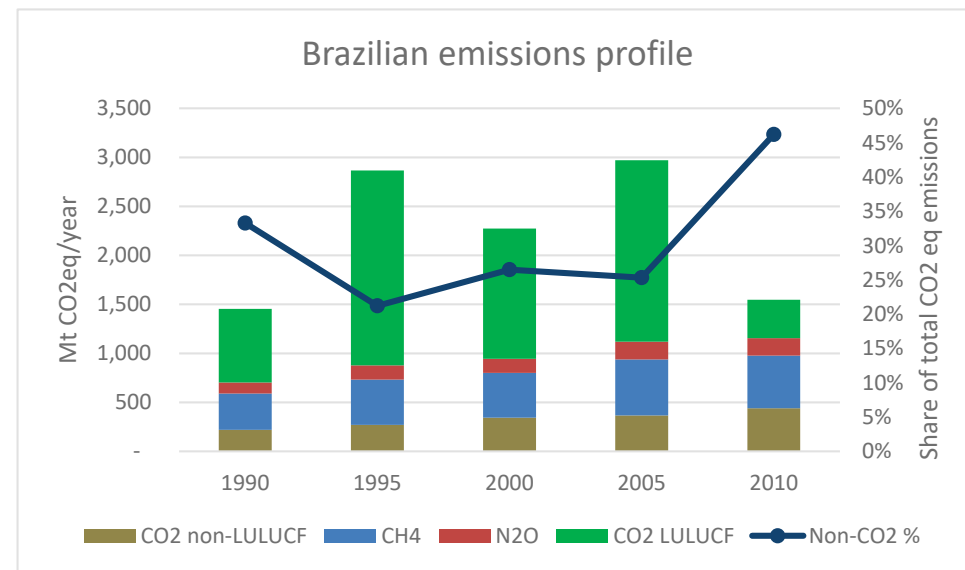
Katowice, Poland – 13 December 2018

Background

- Brazil emissions dominated by AFOLU sectors in the past
- Recent reduction in Amazon deforestation has increased shares of:
 - Emissions from agriculture and energy
 - Non-CO2 gases (mainly from agriculture and livestock)



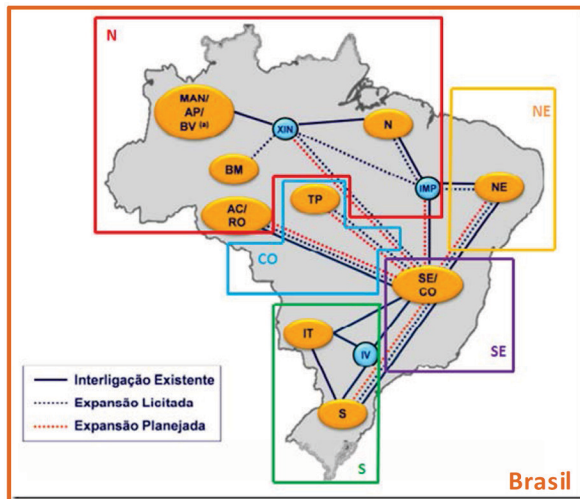
Source: MCTIC 2016



Source: Based on Brasil 2015 - TCN

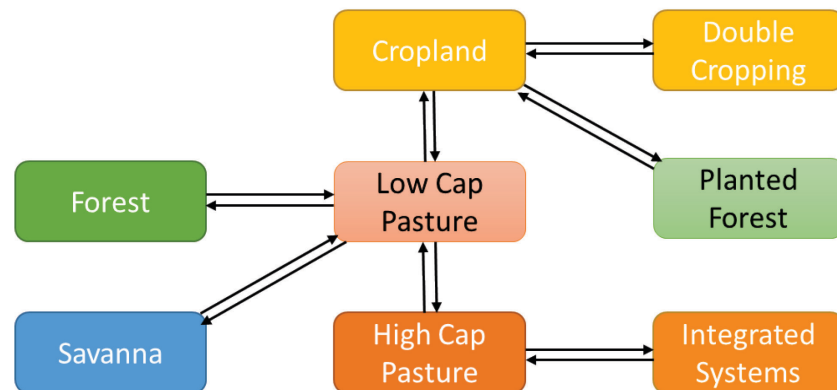
The COPPE-MSB energy system model

Regions in BLUES.

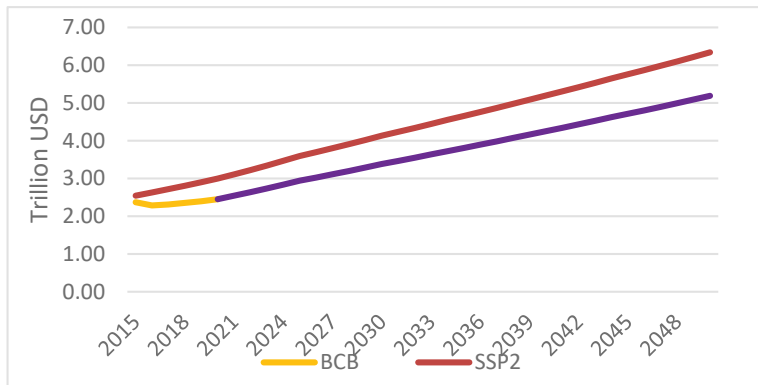


Source: Szklo et al 2017

Allowed land use transitions in BLUES.



The Scenarios (CD-LINKS)



Baseline scenario:

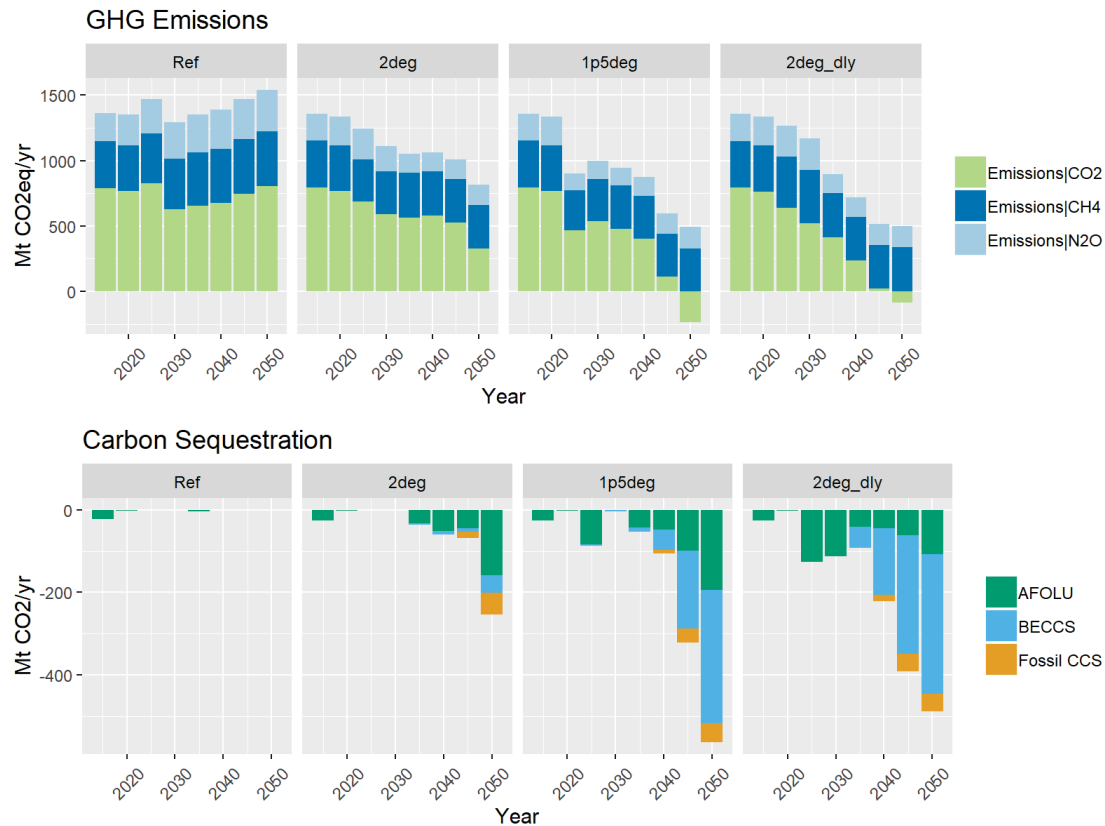
- SSP2 corrected GDP projections (BCB-SSP2)
- Economic structure described in Szklo et al (2017)
- Generate demand projections
- Assume net-zero deforestation post-2030
- Assume ABC Plan implemented by 2025

- Subject to carbon budget restrictions for CO2 emissions:

Scenario Name	Baseline scenario	Global CO2 Budget (2100)	Mean (2050)	Median (2050)	COFFEE (2050)
Ref	Current Policies	-	28.8	29.7	-
2deg		1000	14.6	20.5	23.6
1p5deg		400	7.3	11.3	15.4

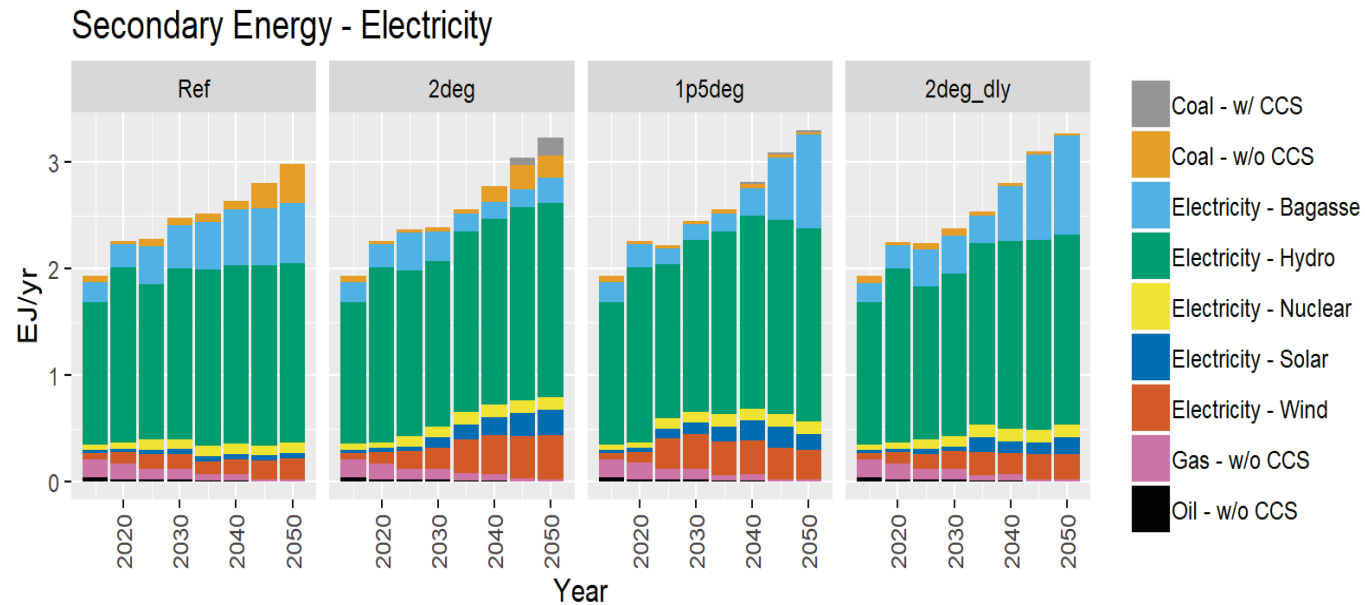
- Non-CO2 gases priced at \$1000/tCO2eq after 2020

BLUES Results: Emissions and Sequestration



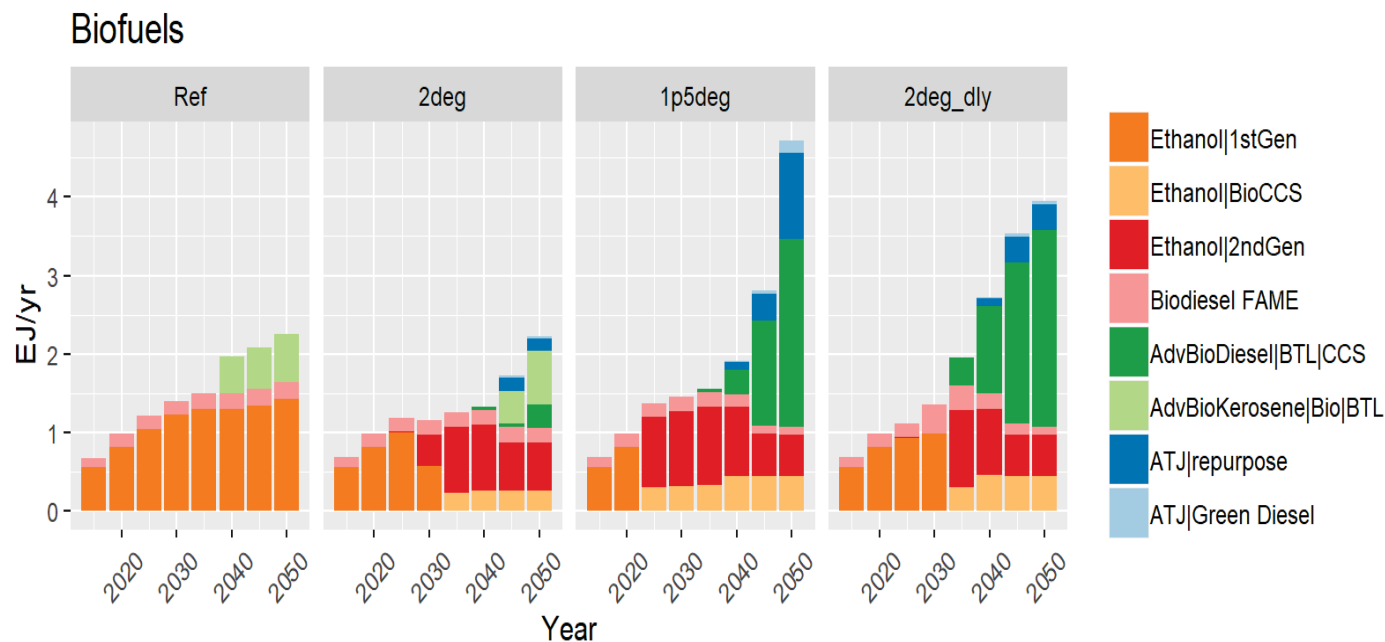
Source: Köberle et al (submitted)

BLUES Results: Power generation



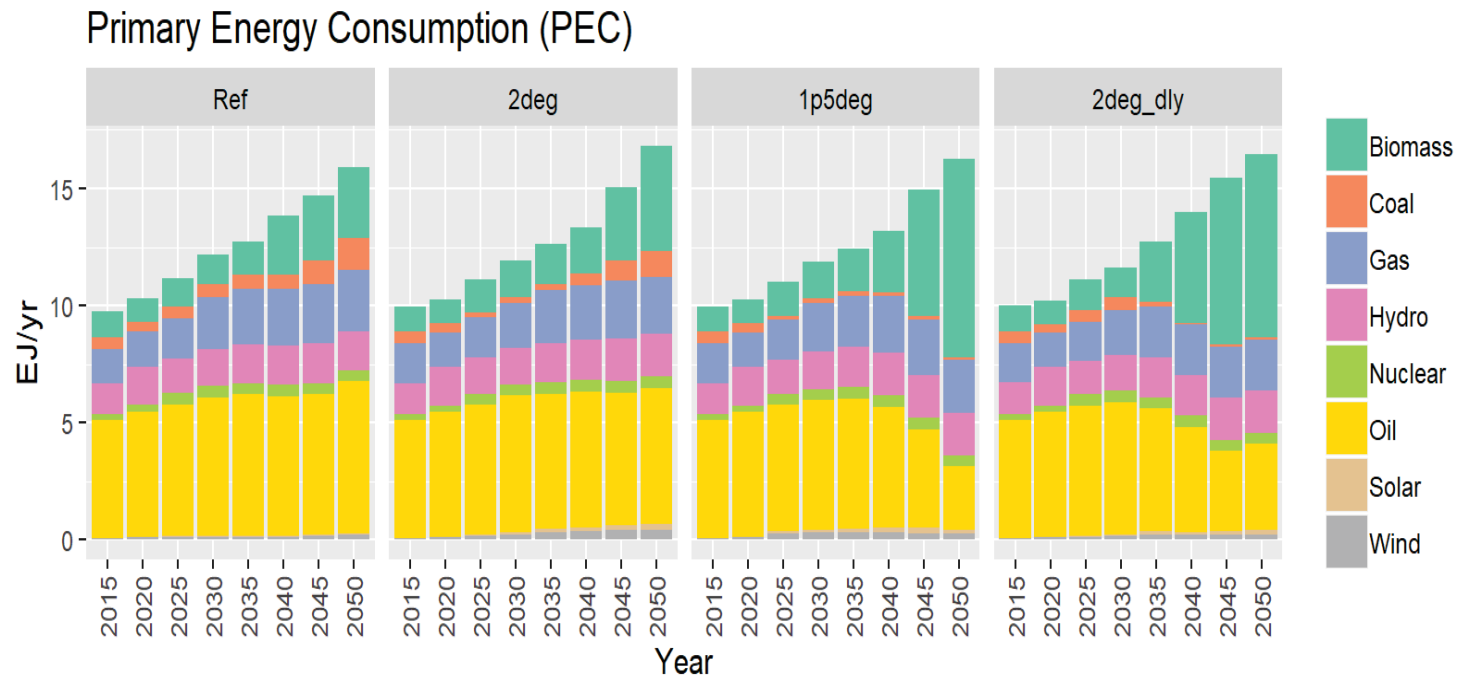
Source: Köberle et al (submitted)

BLUES Results: Biofuels production

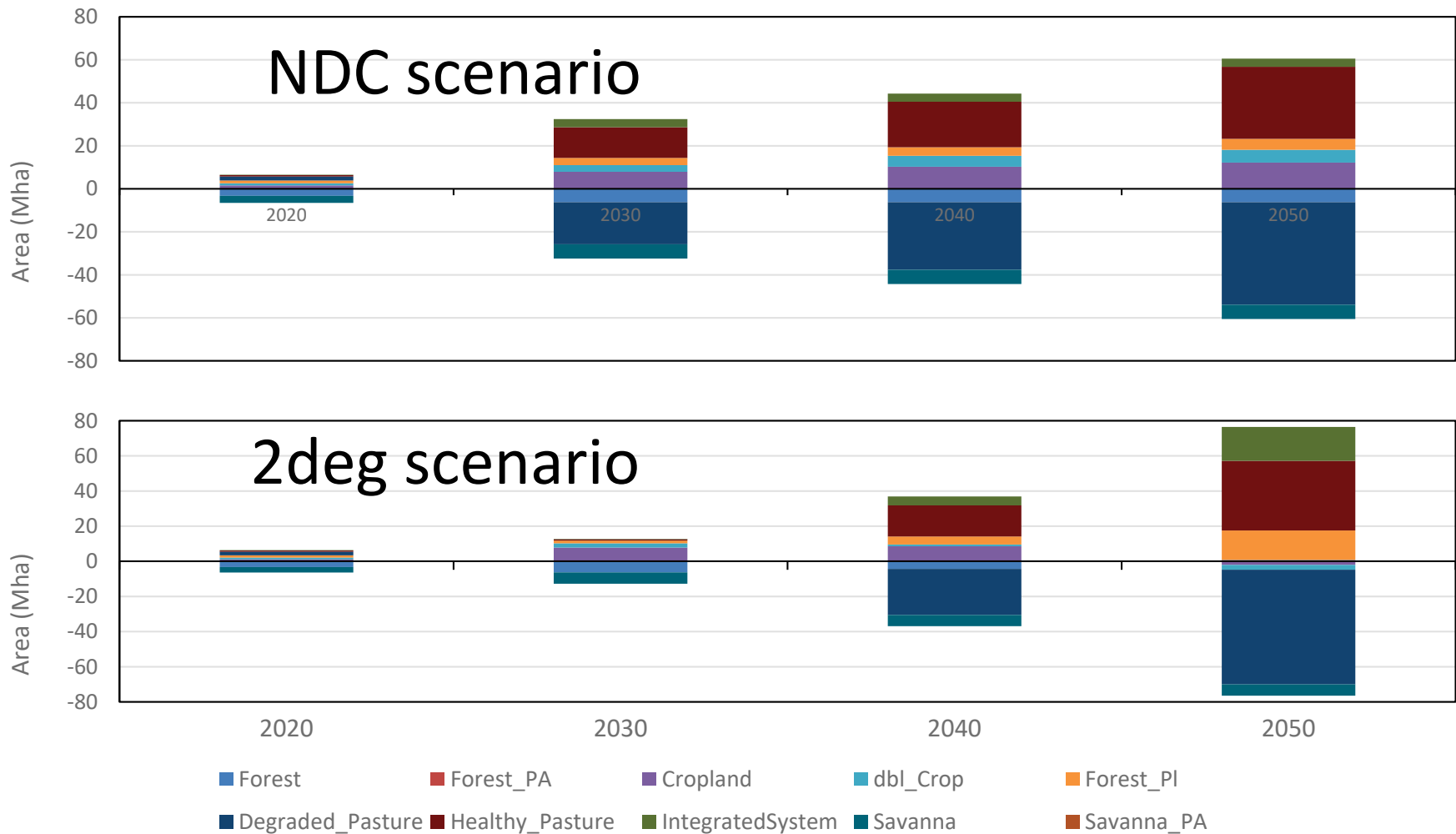


Source: Köberle et al (submitted)

BLUES Results: Primary Energy

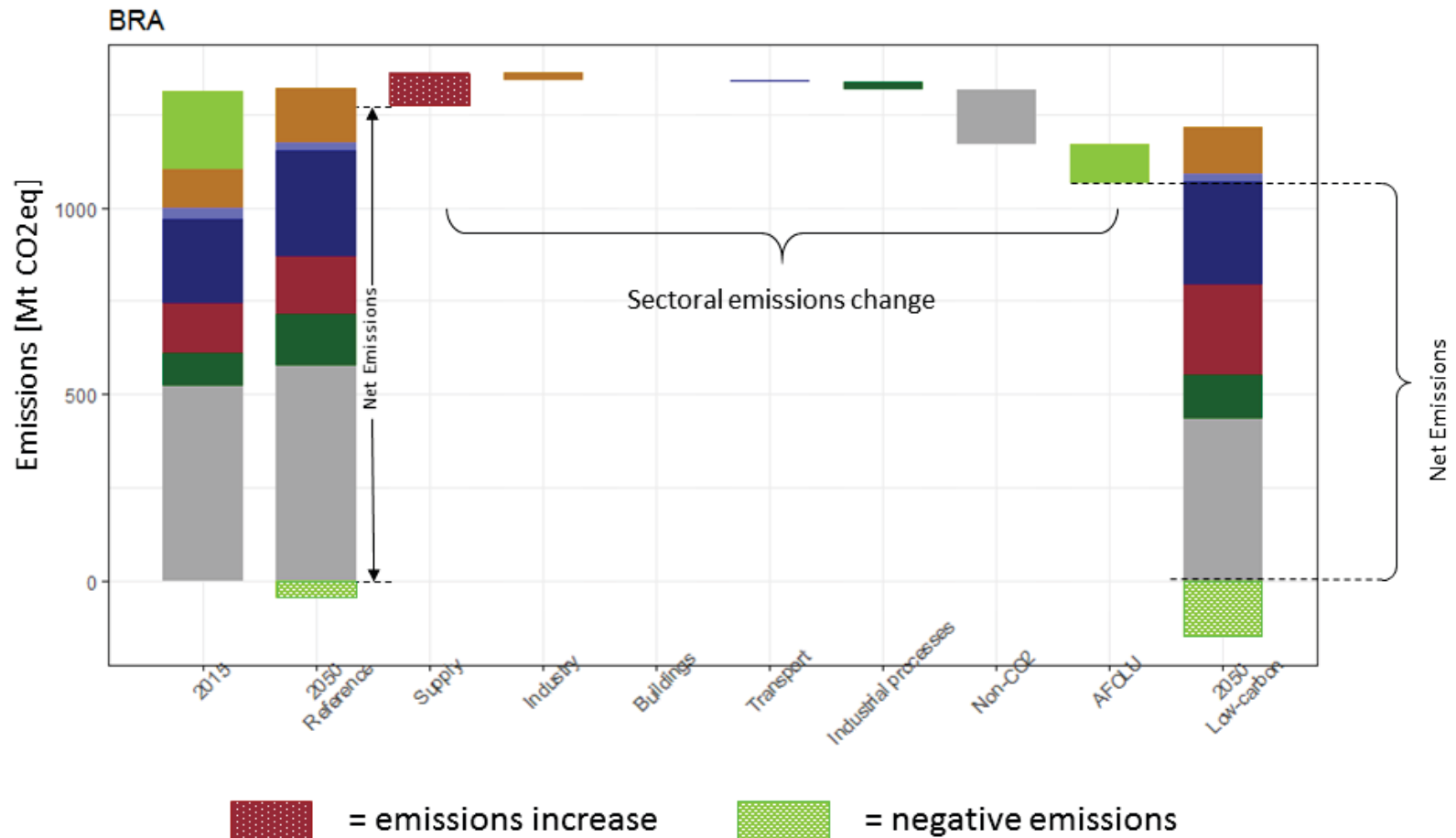


Source: Köberle et al (submitted)



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Emissions reductions in CO LTS to 2050



nature
climate change

LETTERS

<https://doi.org/10.1038/s41558-018-0213-y>

The threat of political bargaining to climate mitigation in Brazil

Pedro R. R. Rochedo¹, Britaldo Soares-Filho², Roberto Schaeffer^{1*}, Eduardo Viola³, Alexandre Szklo¹, André F. P. Lucena¹, Alexandre Koberle¹, Juliana Leroy Davis^{2,4}, Raoni Rajão⁴ and Regis Rathmann¹

In exchange for political support, the Brazilian government is signalling landholders to increase deforestation, putting the country's contribution to the Paris Agreement at risk¹. The President of Brazil has signed provisionary acts and decrees lowering environmental licensing requirements, suspending the ratification of indigenous lands, reducing the size of pro-

acts and decrees that have lowered environmental licensing requirements⁹, suspended the ratification of indigenous lands¹⁰, reduced the size of protected areas in the Amazon¹¹, and facilitated land grabbers to obtain the deeds of illegally deforested areas as large as 2,500 ha per farm in the Amazon rainforest¹².

Analysis of the environmental governance in Brazil helps to

Thank you!
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