

Estimating greenhouse gas emissions from cattle raising in Brazil

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Abstract The study estimated, for the first time, the greenhouse gas emissions associated with cattle raising in Brazil, focusing on the period from 2003 to 2008 and the three principal sources: 1) portion of deforestation resulting in pasture establishment and subsequent burning of felled vegetation; 2) pasture burning; and 3) bovine enteric fermentation. Deforestation for pasture establishment was only considered for the Amazon and Cerrado. Emissions from pasture burning and enteric fermentation were accounted for the entire country. The consolidated emissions estimate lies between approximately 813 Mt CO₂eq in 2008 (smallest value) and approximately 1,090 Mt CO₂eq in 2003 (greatest value). The total emissions associated with Amazon cattle ranching ranged from 499 to 775 Mt CO₂eq, that of the Cerrado from 229 to 231 Mt CO₂eq, and that of the rest of the country between 84 and 87 Mt CO₂eq. The full set of emissions originating from cattle raising is responsible for approximately half of all Brazilian emissions (estimated to be approximately 1,055 Mt CO₂eq in 2005), even without considering cattle related sources not explicitly estimated in this study, such as energy use for transport and refrigeration along the beef and derivatives supply chain. The potential for reduction of greenhouse gas emissions offered by the

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