

Brazilian Agriculture and Climate Change: Analysis of Potential Mitigation

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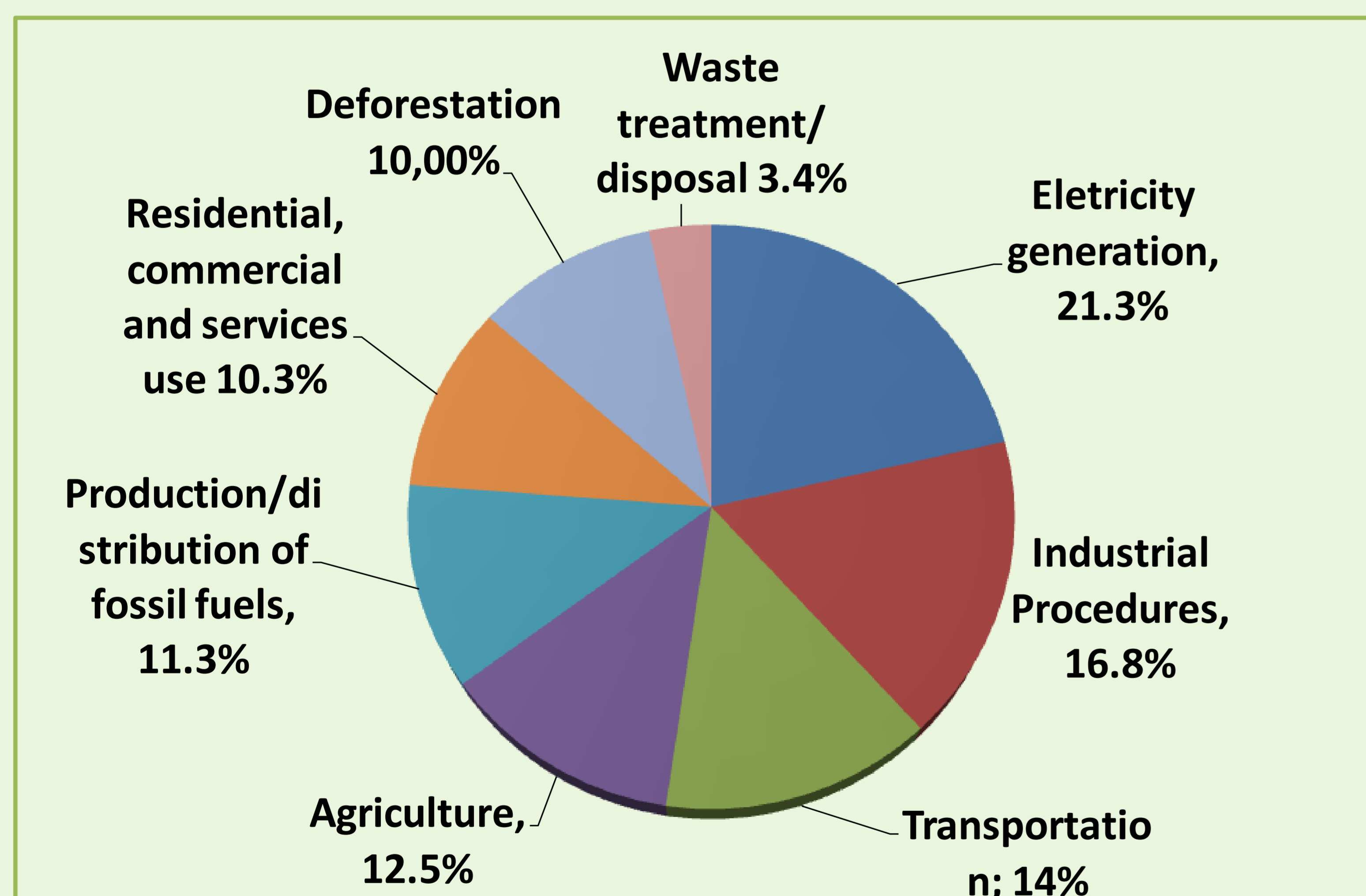
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What is the potential of the Brazilian agriculture sector to mitigate climate change ?

Introduction

According to scientific research and observations, the planet's climate is changing and some evidence that storms are occurring more frequently, there are melting glaciers, the sea level is rising, agriculture is losing cultivable area, etc.

Main greenhouse gases are carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) affect and are generated by the agriculture sector.



Brazil's contribution to emissions of greenhouse gases (2000)

Source: Memorial Foundation

Method

Exploratory research based in secondary data from sector reports from government, research institutes, associations and companies.

Preliminary Results

Crops Area in a global warming scenario (increase between 3 °C and 5.8 °C (Assad, 2008)

Crops	Area in 2011 (km ²)	Estimated area in 2020 (km ²)	(%)
Cotton	4,029,507	3,583,461	-11.07
Rice	4,168,806	3,764,488	-09.70
Coffee	395,976	358,446	-9.48
Sugarcane	619,422	1,608,994	159.76
Bean	4,137,837	3,957,481	-04.36
Sunflower	4,440,650	3,811,838	-14.16
Cassava	5,169,601	5,006,777	-03.15
Corn	4,381,791	3,856,839	-11.98
Soybean	2,790,265	2,132,001	-23.59

Recommended measures to mitigate emissions in Agriculture - Brazil

Agriculture	<ol style="list-style-type: none"> I. Best agricultural practices <ul style="list-style-type: none"> ▪ No-till method ▪ Crop rotation ▪ Eliminate soil disturbance ▪ Improve carbon storage ▪ Avoid the use of fertilizers ▪ Crop replacement ▪ More efficient equipments
Energy Production	<ol style="list-style-type: none"> I. Energy Conservation II. Renewable Energy III. Crops for biofuels and ethanol
Transportation	<ol style="list-style-type: none"> I. More efficient vehicles II. Hybrid vehicles III. oil pipeline
Forests	<ol style="list-style-type: none"> I. Reduction on deforestation II. Reforestation
Others	<ol style="list-style-type: none"> I. Education II. Share information with farmers