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Advising Greentech companies  
to help maximize growth

## Methane ( $\text{CH}_4$ ): The other greenhouse gas



The Bezos Earth Fund is  
attacking problem

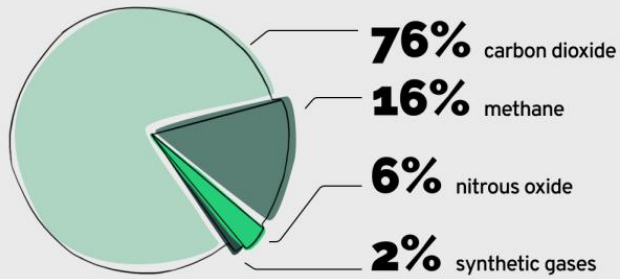
# Eat more Chicken!



- Globally, cows and other livestock account for about 40% of methane emissions.
- According to the EPA, a single cow produces between 154 to 264 pounds of methane gas per year.

Any Idea which countries raise the most cattle?  
Hint: For a change it isn't China or the U.S.

See Next Slide



**Methane dissipates much faster  
than CO2  
(12 years vs hundreds of years)  
but ...  
it's 80 times more potent in its  
first 20 years.**



**In 2022, worldwide, there were approximately 1.55 billion heads of cattle in the world. Between 1972 and 2022 the cattle population increased 39%.**

## Brazil and India are homes to the largest cattle populations

Country	Percentage of WW Population	Change Since 1972
Brazil	15.1%	182.0%
India	12.5%	8.5%
Russia	7.5%	12.9%
United States	5.9%	-21.9%
Pakistan	3.4%	264%
Mexico	2.3%	63.6%

**Raising cattle is one thing, but which countries consume the most beef?**

**Hint: The U.S. rears its ugly climate head again.**

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**The U.S. may only be 3<sup>rd</sup> in per capita beef consumption but with a population almost identical to the other top 6 countries combined, we are by far the world's largest beef market.**

## The U.S. and Brazil raise and eat a lot of beef

Country	2020 Beef Consumption	Population
	Per Capita (kg)	(in mil)
Argentina	46.93	46.2
Zimbabwe	42.30	16.3
United States	37.87	333.3
Brazil	35.41	217.6
Uzbekistan	31.64	35.7
Chad	27.51	18.9

- China consumes 6.67 kg of beef per capital but has a population 4x that of the U.S.
- India also has a population 4x of the U.S. but only consumes 1.14 kg of beef per capita.

So how is the Bezos Earth Fund trying to address the issue of cow-produced methane?

I know finally - See Next Slide

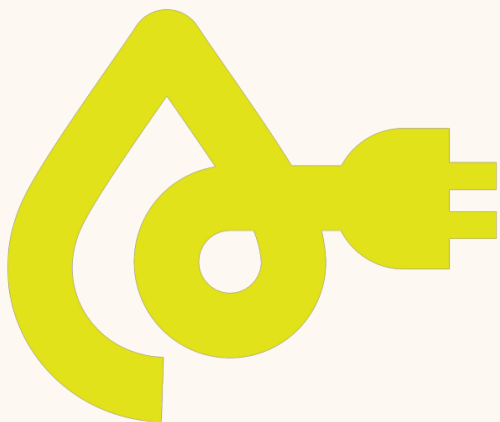


**Microbes in the digestive system of cattle produce methane which exists from both ends of a cow.**

# Vaccines



- The Bezos Earth Fund has provided \$9.4 million in funding to research whether a vaccine can be developed to reduce the amount of methane cows produce.
- The Pirbright Institute and the Royal Veterinary College will be exploring various vaccines with the potential to cut livestock methane emissions by more than 30%.
- Others are exploring feed additives, but according to the Bezos Fund “a vaccine offers a universal solution which is both scalable and cost effective.



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## Unbiased and Unfiltered

- An honest assessment of the climate change effort.
- I cover what's working – but more important - the issues/roadblocks that the industry would prefer to ignore.
- A must-read for anyone with a desire to understand what's really going on with renewable energy and climate change.



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