

Science Podcast Script:

Meat & Environment

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Intro [~60s]

You might have noticed that we are in a state of environmental crisis. The climate change is already having dire consequences. And we need to act fast. One of most ambitious plans has been put forward is the Green New Deal.

[LONG 1: Intro of GND ~ 15s]

But not everyone is on-board with the plan, for various reasons.

[LONG 1: Fox News talking about no beef and hamburger ~ 20s]

Oh god, how would my lovely burgers make the earth warmer, it's just ridiculous [TALKING WHILE LAUGHING]. Or wait, does it really? [SKEPTICAL VOICE] How big of a problem is what I eat? I mean, does it really make much of a dent in something as huge as global warming?

FADE IN: [Music: intro ~5s]

How much does food contribute to the climate change? [~40s]

Well it turns out, what we put on our plates [SHORT 1: sound of tableware hitting the plate] matters a lot.

[LONG 2: explaining the global greenhouse gas emissions from food ~ 20s]

Take the diner steak we all love as an example. It ends up emitting about 330 grams of carbon. That's equivalent to driving a car three miles.

Now, if I choose to have chicken [SHORT 2: chicken sound] instead, there's more than a five-fold drop in emissions. If I swapped beef out entirely for lentils, well, I'm practically down to nothing.

So how does beef, and lamb too for that matter, manage to warm up our planet?

HOW? – Farming Process [~60s]

Livestock accounts for a little over 14% of global greenhouse gas emissions. If that seems sort of low to you, consider it's about equal to transportation [SHORT 3: car horn]. We're talking about all the cars, trucks, planes, trains, and ships on the planet combined, versus the steak on your table.

And a huge reason for that is because ruminant animals like cows and sheep - they're just gassy [SHORT 4: cow sound]! They have to digest food that most animals don't do as well, like grass and tough plant material. [SHORT 5: grass growing sound + SHORT 6: cow chowing voice]

Their stomachs are microbe-rich to help them do that through a process called Enteric Fermentation. The byproduct of this digestion is methane, a powerful greenhouse gas [SHORT 7: gas out of water sound]. Some of those emissions come out this way [SHORT 8:

fart sound + **SHORT 4**: cow sound]. But 95% come out from the front [**SHORT 9**: burp sound].

If you've never heard one of these animals burp, there's an endless supply of YouTube videos for your viewing pleasure.

FADE IN: [**LONG 3**: burping compilation; fade in by the end of the sentence~15s]

Jokes aside though, methane is a huge contributor to climate change. It's the second-most emitted greenhouse gas after carbon dioxide. But it traps more heat than carbon dioxide. Its global warming potential is 21 times higher over 100 years. Among human-related methane emissions, Enteric Fermentation is the biggest contributor to methane emissions globally. More so even than the methane emissions from burning fossil fuels.

But that's not the whole story. There's also the land use change.

HOW? – Land usage change [~30s]

Starting in the 1700s, the human land usage skyrocketed. But only a tiny amount of this is due to our built environment, like cities and towns. Most are in fact for grazing.

[**LONG 4**: land use change~20s]

By contrast, nuts, and citrus fruit, and olive oil have negative land use emissions. Because planting nut, and citrus fruit, and olive trees is reforesting cropland [**SHORT 5**: grass growing sound].

How we can make a difference [~30s]

We emit 8 tons of greenhouse gases per-capita. Changing our diet can potentially reduce that by 28%. And that's more than any other life change we could make.

A lot of food emissions are unavoidable. We all have to eat every day. But we do have a choice what not to eat. And these choices can add up to big impacts! Hey, so what are you going to have for dinner tonight?

FADE IN: [**Music**: outro ~5s]

Works Cited

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