

Impact of the beef industry on climate change



Where's the Beef in Climate Change?

There are so many delicious things you can do with beef. Steak can be absolutely amazing if you prepare it correctly and burgers are an American staple as there are countless uses for ground beef. The meal possibilities are endless, but have you ever thought about how beef is produced? It obviously comes from a cow. and there are different cuts and quality of meat depending on which part of the animal is used. These cows are raised in mass quantities on pastures and farms. They are fattened by tons of animal feed every day and then they are either milked or killed for the meat and other products they can be used for such as milk or leather. This is often seen by many people as a small sacrifice that produces necessities for the human population. Although there are many inhumane treatments that these animals go through, it is not often seen as a big deal. However, there is something else that people should consider when they choose to consume or make use of a cow product. Pollution. In the epoch that we are currently in, the Anthropocene as it has become known, the beef industry is a leading cause of climate change due to its massive contribution to pollution and its wasteful use of resources around the globe. As hard as it may sound to the general masses, the most efficient way to slow or start to stop climate change is the switch to a more sustainable protein source and the implementation of alternative cow product as they are just as healthy. If people could make the simple and straightforward sacrifice of not consuming beef or using its products, then maybe climate change might be able to slow, even if the usage of beef is slowly reduced by small increments.

In 2014, filmmakers Kip Andersen and Keegan Kuhn created a documentary called *Cowspiracy: The Sustainability Secret* in which the filmmakers began to dig into the livestock industry and its effect on the environment. With years of research and discussion with experts, they discovered that the industry is one of the leading causes of climate change in the way that it uses excess resources and produces tons of pollution. The filmmakers uncovered that “livestock and their byproducts account for at least 32, 000 million tons of carbon dioxide (CO₂) per year or 51% of all worldwide greenhouse gas emissions” (Andersen). This has been a hidden truth for the longest time. Not many people have really realized the massive impact that the agriculture industry has on Climate Change. It is not quite as natural as one would think it is. There is so much that goes into raising animals that really is detrimental to the Earth. This is proof that livestock is incredibly detrimental to the environment. Going deeper into the industry, “cows produce 150 billion gallons of methane per day” and “methane is 25-100 times more destructive than CO₂ on a 20-year time frame” (Andersen). That being said, the methane that is produced by cows will be the most destructive factor to the Earth in just a few decades. And this is all because of the farts of the cattle that are raised in fields all over the world. There are so many cows that this really is a very important issue. The beef industry has a very large effect on the world in many ways, however “reducing methane emissions would create tangible benefits almost immediately” (Andersen). There are many ways to help the environment, but if the world were to reduce the extremities of the beef industry, then there would be a huge decrease in pollution to the environment and it could, in turn, slow or even stop climate change. According to the Intergovernmental Panel on Climate

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Change, we need to reduce greenhouse gas emissions by about 50% before 2050 in order to stop climate change at the rate it is going (IPCC). If the world could cut out beef from their diets and stop using other cow products such as milk or leather, then we would be incredibly close to meeting that goal. This documentary barely scrapes the surface with facts about the impact of the beef industry and what can be done yet shows many important issues in the world that need to be changed for a better world.

The first big issue of the beef industry is its production of pollution in the world. As stated earlier, cows produce huge amounts of methane that are much worse than CO₂ in terms of greenhouse gases. According to Sisse Jørgensen, a Danish scientist that works with the Danish Department of Environmental Sciences, “one of the main contributors to anthropogenic climate change is agriculture” (Jørgensen). The Anthropocene is the new epoch that we are currently in. It is considered to be the epoch that humans’ effect on the world has finally started to surpass the world’s natural changes. This can clearly be seen on the topic of the methane caused by cattle. Humans have raised these natural animals for their own good. Humans have often abused these animals for their own usage. And its result? Pollution. This is truly a very important piece in the Anthropocene. Humans have caused the greenhouse gases to skyrocket from all of the cattle that they have produced in the recent decades. This issue screams Anthropocene in so many ways. In one journal article from Stephen Del Grosso, who is a research soil scientist, there was a projection that agricultural and greenhouse goals could not be reached together “under current projections of global growth in population, affluence, and meat consumption” (Del

Grosso). Del Grosso argues that with the direction that life is going towards right now in the world, there is no way that humans could keep the agricultural production at the rate it is going at while still holding on to a hope of a total greenhouse gas reduction. Only one can continue on in order to keep the other running smooth. Jørgensen brings up another good point about climate change and the agriculture industry that the agricultural industry “ is also very vulnerable to climate change effects, in particular, extreme weather events” (Jørgensen). Not only is agriculture a leading cause in climate change but it is also affected harshly by it. It is clear that the best action to keep food production stable is to reduce the most detrimental part of agriculture. This is what has been discovered to be the beef industry. If humans could take out beef production at the rate it is at, then there would be a much higher chance of fixing climate change.

Cattle production has two huge waste factors in its production. First, there is an incredible land usage. According to the documentary, “ livestock covers 45% of the earth’s total land” (Andersen). Livestock land can be found in every country. Often times, people will cut down forests for land for livestock. The documentary also shows that animal agriculture is responsible for around 90% of the rainforest’s destruction (Andersen). Livestock needs space to graze and move around. In order to raise cattle in the most humane ways, they need a lot of space to roam around to live until they are used. With the huge amounts of cattle being raised all over the world, there needs to be a lot of land for the cattle, hence, humans cut down trees and forests that they may not understand the reason of for the use of cattle lands. Along with the extreme usage of land, cattle need lots of water to be raised

correctly. According to the book *Livestock's Long Shadow*, a book that goes deep into the details of the effect of livestock on the planet, "livestock's use of water and contribution to water depletion trends are high and growing" (Steinfeld). Livestock uses an incredible amount of water for consumption, both through drinking water and for eating the food for them as well as for cleaning services (Steinfeld). Water is also used a lot in the processing of cow products such as washing carcasses and the processing of tanning (Steinfeld). Water is becoming a scarce resource and the uses of it in the beef industry is a majorly detrimental part of the wasting of the water. Without the beef industry, there would be less of a need to use up so much land and water and it would become very beneficial for the world. There are already so many other places that waste water so if humans could reduce meat consumption then there would be a very huge decrease in wasted water every year. That way humans could conserve enough water for the future as droughts become more frequent.

Although beef is a great source of protein, there are multiple healthy alternatives that are plant-based. With the rise of more plant-based proteins and more options for vegan diets, the usage of beef is already starting to decrease. Although it is not at all near levels that it should be at. As previously stated, the success of both the agriculture goal and the greenhouse gas goal are not compatible with each other. If humans were to adopt a healthier diet, the diets "would allow sufficient decreases in agricultural production to meet GHG mitigation goals even if only modest technological advances were accomplished" (Del Grosso). This means that the agricultural demands would decrease to produce only what is needed for

plant-based diets and the GHG (greenhouse gas) goal could actually be met. Plant-based diets could be the key to a healthier planet and healthier people. Along with that, in a Harvard Health article published in 2015, there are many good reasons to move to a plant-based diet. First, in a study published in JAMA Internal Medicine, it has been said that “meat-free diet can reduce the risk of developing colon cancer” (Harvard). In another study “Cancer Epidemiology found that eating a vegetarian diet reduced the overall risk of all cancers compared with eating a non-vegetarian diet” (Harvard). These are just two pieces of proof that plant-based diets are much more beneficial to human consumption. This could easily end so much animal agriculture that is polluting the Earth. It would also decrease the inhumane actions that are made towards animals and it would allow for forests such as the rainforests to continue grow naturally. All of this proves that a plant-based diet will be incredibly beneficial to the world and to humans.

Of course, there are many reasons to end the beef industry as well as many alternatives that could be useful, however, there are many other options that could help reduce waste and pollution as we transition into a more meatless diet. The world might be more willing to be more sustainable if it was more economical, for example, “meat from animals that have been fed with fodder such as soya grown in areas that used to be rainforest, and then transported across the ocean, might be very expensive compared to meat from animals that have been used for nature conservation by grazing permanent grasslands, in a way that maximizes the increase of soil organic matter.” (Porter) Sustainability is often seen as expensive, but in reality, it could be cheaper for the consumer and a benefit to the economy. With that,

if we were to produce these products on the land that it will be consumed, it could take down other emissions of greenhouse gases such as CO₂ from the trains, planes, and cars that carry the meat. Of course, this still uses up land and will produce pollution, however, it would be more sustainable in that it would not have to be shipped worldwide or that it would the deforestation of rainforests. This could be a decent start to finding better methods of incorporating beef into the lives of humans. Along with that, there has been a great deal of research on the topic of using methane to powering cars or other mechanical systems and hence “ methane is already being used in about 400, 000 vehicles around the world.” (Abelson) With more beneficial use of methane, the beef industry could collect this resource from cattle and distribute it for use among vehicles and other possibilities such as heating buildings. “ When [users] burn methane...engines are about 10 percent less efficient and, for the same piston displacement, generates 25 percent less power than with gasoline.” (Abelson) Although this may not be as efficient, there is a much larger amount of methane in the world than the depleting petroleum supply in the world. Methane has been considered as the cleanest burning fossil fuel, so it could help in many ways to power cars in the long run. This could also be beneficial to the beef companies and to the economy as it would bring in more sources of energy. However, taking business away from the oil companies may produce some turmoil but either way it will still give into big corporations' profits, which many people are not very happy with. That being said, it may be a good start into transitioning to a beefless society. These possibilities could allow humans to keep using animals for their own needs. This possibility allows the general public to not forfeit eating the delicious beef. Although they would still have to live with the guilt

of the killing of the animals. With all this said, there are many compelling reasons to move away from the consumption of beef and product usage and in turn using alternatives. It all comes down to the effort that is put into it and the encouragement from the rest of society to move to a more sustainable way of life.

Beef has always been an important part of my life. Every week, my family would consume beef around five times and every single day I would have at least one cup of milk. I grew up eating beef and using its products. The move to having a completely beefless, let alone a completely meatless, diet can be an incredibly difficult move. The last paragraph brings in some views from the other side of the argument that could help in the transition. However, a completely meatless and plant-based diet would be healthier to people's diet and it would be an very important move to help reduce greenhouse gas emissions. It will also help bring down wastes of water and land throughout the world. With all the new research coming out on how to produce more plant-based food products, there is more of a chance that the world can get foods that are almost identical to beef products that would be made from plant-based ingredients. These foods will condense the resources that are needed for growing the food needed in the diets of people in the world. Although it is not the same as having a real, juicy piece of steak, it would be similar enough that it would still taste good but at the same time, it could really be helping the environment.

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