

Eating less meat can help save the planet



Why changing your diet could be the most effective thing you can do to combat climate change, deforestation and the destruction of nature

Globally, food production produces a quarter of the world's greenhouse gas emissions and takes up half of the habitable land on the planet. This is all land which could otherwise be used for other purposes.

Using less land for producing food could provide more habitat for the world's vanishing wildlife. Sixty-nine percent of wildlife has died out since 1970, mostly due to loss of the habitat it needs to survive.

It could provide more land for trees, enabling us to reverse the decline and destruction of the forests - from Siberia and Northern Canada to the tropical rain forests of the Amazon, equatorial Africa and southeast Asia, which have been called the lungs of the world because of their vital role in drawing CO₂ out of the air and replacing it with the oxygen that is essential to human and animal life. In the first 20 years of this century we have lost 11% of tree cover world-wide, mostly from tropical and sub-tropical rainforests - an area bigger than Germany every year.

More land could be used for growing energy crops for biofuels, which are broadly carbon-neutral because the CO₂ released by burning them is balanced by the CO₂ they have absorbed from the air as they grew.

With climate change causing rising sea levels, some extra land will have to be used to accommodate people displaced from the low-lying coastal areas where over a third of human beings live.

For all of these reasons we need to reduce the proportion of the land given over to producing our food, but we are doing precisely the opposite, and it is not all due to the increasing world population.

So what has diet got to do with it?

What food and drink we choose to consume has a huge effect on the amount of land and emissions it takes to produce it. Meat and animal products require the most. A vegetarian diet requires much less, and a vegan diet (with no milk, cheese, eggs or other animal produce) the least of all.

The land needed to produce 1kg of protein from beef is over 20 times that needed for 1kg of protein from plant-based sources. Sheep meat uses even more, though it is generally lower quality land. Other forms of meat require less land, but all animal products produce more greenhouse gas emissions than plant-based proteins.

Land required (sq. m.) and Greenhouse Gas emissions (kg CO ₂ e) to produce 1kg of protein					
	LAND	GHG		LAND	GHG
 Beef	1,636	99	 Poultry	71	9.9
 Lamb / Mutton	1,848	40	 Eggs	57	4.7
 Cheese	398	24	Pulses	73	1.8
 Milk	271	3.2	Groundnuts	35	3.2
 Pork	107	12	Peas	34	0.1

Statistical source: www.ourworldindata.org

What about our carbon footprint?

The issue is not just one of land use; it is also about greenhouse gas emissions driving climate change. Intensive meat production, and growing crops to feed to cattle, use vast amounts of energy and chemical fertilisers, and destroy forests. Cutting down Brazilian rainforest to grow soya for cattle in Europe is an extreme example of this. Farming livestock (especially cattle) also produces huge emissions of methane, a very powerful greenhouse gas. Growing crops to feed animals and then eating the animals is simply far less efficient than growing food to feed ourselves directly, and about a third of all human-caused greenhouse gas emissions is linked to food.

It is estimated that if the whole world went vegan, it would save nearly 8 Gt (8 billion tonnes) CO₂ equivalent per year. That is a saving of 60% of all food emissions, which are currently at 13.7 Gt of CO₂ equivalent a year. It would also reduce the land needed for food production by up to 75%, from 4 billion hectares to just one billion.

Carnivorous cyclist vs. vegan in a Rangerover

It has been claimed that a meat-eater on a bicycle contributes as much to global warming as a vegan in a Rangerover. Like most generalisations, this might or might not be true. It would depend on how much meat the meat-eater ate and how far the vegan drove, but it could be true.

Various scientific studies have quantified the greenhouse gas emissions of different diets. In May 2022 BBC Future quoted figures of 2543 kg CO₂ equivalent per year for omnivores, 878 kg for vegetarians and 515 kg for vegans. According to www.autoexpress.co.uk, a Rangerover emits 235g CO₂ per km. On those figures, the vegan could drive 8,630 km per year before overtaking the meat-eater's carbon footprint. A vegan on a bicycle would obviously contribute the least.

Our growing meat consumption

According to the UN Food & Agriculture Organisation, world meat production has increased almost fivefold in the past 60 years, from around 70 million tonnes per year in 1961 to almost 350 million tonnes in 2018. This reflects a widespread cultural shift towards Western lifestyles, including the American heavy meat or 'hamburger' diet. As well as the implications for land use and climate, a plant-based diet is generally healthier. Meat, especially red meat and highly processed meat, has been linked to a string of major health issues, including high blood pressure, heart disease, cancer and obesity.

Every year we slaughter 69 billion chickens, 1.5 billion pigs, 650 million turkeys, 570 million sheep, 450 million goats and 300 million cattle for food worldwide - over nine animals killed for every person on the planet - all for the nutrition and protein that can come from a plant-based diet.

The ethical argument

On top of all the other arguments in favour of dietary change, there is also a strong ethical one. The great Indian sage M.K. Gandhi said "I do feel that spiritual progress does demand at some stage that we should cease to kill our fellow creatures for the satisfaction of our bodily wants."

Whatever we may think about spiritual progress, or killing animals, in the face of climate change our physical survival now demands that we should at least reduce our consumption of meat and animal products.

Eating less meat is one of the most effective personal choices we can make towards protecting the future of our planet.

