Climate veganism

Examining factory farming within the context of climate change

THEO (THONG NGUYEN)

PROJECT 1
THE POLITICS OF TECHNOLOGY
YSDN 3006
FALL 2020
MARK CHEUNG

Climate veganism

Sources

1. Animal Industry
GOVERNMENT OF CANADA

2. Animal Liberation
PETER SINGER

3. Environmental impacts of food production
OUR WORLD IN DATA

4. Evolution, the human diet and the meat vs. plant conundrum
GENETIC LITERACY PROJECT

5. FAOSTAT
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

6. FoodData Central
U.S. DEPARTMENT OF AGRICULTURE

7. Key facts and findings
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

8. Nutritional composition of red meat
UNIVERSITY OF WOLLONGONG

9. Reducing food's environmental impacts through producers and consumers
J. POOREC AND T. NEMECEK

10. The Juicy History of Humans Eating Meat
HISTORY.COM

Climate veganism

Summary

With the looming threats global warming and climate change that have been warned by scientists for decades, the world is scrambling for solutions and mitigations. Agreements are made, legislations are passed and research is being done, of course with the added handicap of long beaucratic complications and nightmares. This is also compounded by the fact that this problem is such an inevitable but slow process, making it hard for some to grasp the gravity of its devastation.

It is the joint after effects of multiple organizations and industries that got us to where we are today, struggling to keep global temperature increase to half a percentage point within the next decade. Due to the sheer economic impact of those entities, eliminating them is hardly practical.

There is not much an indivdual could do. But by understanding a part so close to their everyday life—their diet—from why it is the way it is today, the finer details of its parts, to what they can do starting from today, a person can help alleviate this dilemma of this generation, possibly this century.

The answer has always been on our plates: meat and its overlooked burdens.

Climate veganism

Data

Industries

Source for data within page is cited by the first number, unless denoted specifically elsewhere

INDUSTRIES (WORLDWIDE) [5]

Global livestock respresent 15% of all anthropogenic GHG emissions [7]

Beef (61%) [7]

1.4 billion
Live cows (2018)

1.7 billion tonnes
CO2eq (2017)

25.5 kilograms
CO2eq/kg product

Pork (9%) [7]

0.97 billion
Live pigs (2018)

177 million tonnes
CO2eq (2017)

1.47 kilograms
CO2eq/kg product

Chicken (8%) [7]

23.7 billion
Live chickens (2018)

62 million tonnes
CO2eq (2017)

0.56 kilograms
CO2eq/kg product

Climate veganism

Data

Land use

Source for data within page is cited by the first number, unless denoted specifically elsewhere

LAND USE (MEASURED IN SQUARE METERS) [3]

50% of habitable land is used for agricultural production. 77% of which is used exclusively for livestock.

per kg of product

326.2 m^2	**17.4 m^2**	**12.2 m^2**
Beef	Pork	Poultry

per 1000kcal of product

119.5 m^2	**7.3 m^2**	**6.6 m^2**
Beef	Pork	Poultry

per 100g of protein

184.8 m^2	**10.7 m^2**	**7.1 m^2**
Beef	Pork	Poultry

Climate veganism

Data

Water use

Source for data within page is cited by the first number, unless denoted specifically elsewhere

WATER USE (MEASURED IN LITERS) [3]
& POLLUTION (MEASURED IN GRAMS OF PHOSPHATE EQUIVALENTS)

70% of global freshwater withdrawals is from agriculture. That 70% in turn produces 78% of global water pollution.

per kg of product

1,451 L	**1,796 L**	**660 L**
Beef	Pork	Poultry

per 1000kcal of product

994 L	**751 L**	**357 L**
Beef	Pork	Poultry

per 100g of protein

1,375 L	**1,110 L**	**381 L**
Beef	Pork	Poultry

Eutrophying emissions (water pollution) per 100g

151.2 g	**47.2 g**	**28.1 g**
Beef	Pork	Poultry

Climate veganism

Data

Emissions

Source for data within page is cited by the first number, unless denoted specifically elsewhere

GREENHOUSE GAS EMISSIONS (MEASURED IN KG PER CO2EQ) [3]

26% of ghg emissions is from food production.
52% of which is from livestock and the cultivation of their feed.

per kg of product [5]

25.5 kg	**1.47 kg**	**0.56 kg**
Beef	Pork	Poultry

per 1000kcal of product

36.4 kg	**5.15 kg**	**5.34 kg**
Beef	Pork	Poultry

per 100g of protein

49.9 kg	**7.61 kg**	**5.7 kg**
Beef	Pork	Poultry

Climate veganism

Data

Significance to
Canada's economy

Source for data within page is cited by the first number, unless denoted specifically elsewhere

CANADA'S ANIMAL INDUSTRY AT A GLANCE [1]

Canada's animal industry imports $2.7B and exports $5.5B in meat products in 2018. [5]

Red meat and livestock

12.24M

Cattles

72%

of cattles are expored to the US

72,860

cattle farms

Poultry and egg

1.45B kg

of poultry meat annually

35.1 kg

of chicken for every Canadian

3,344

chicken and turkey producers

Climate veganism

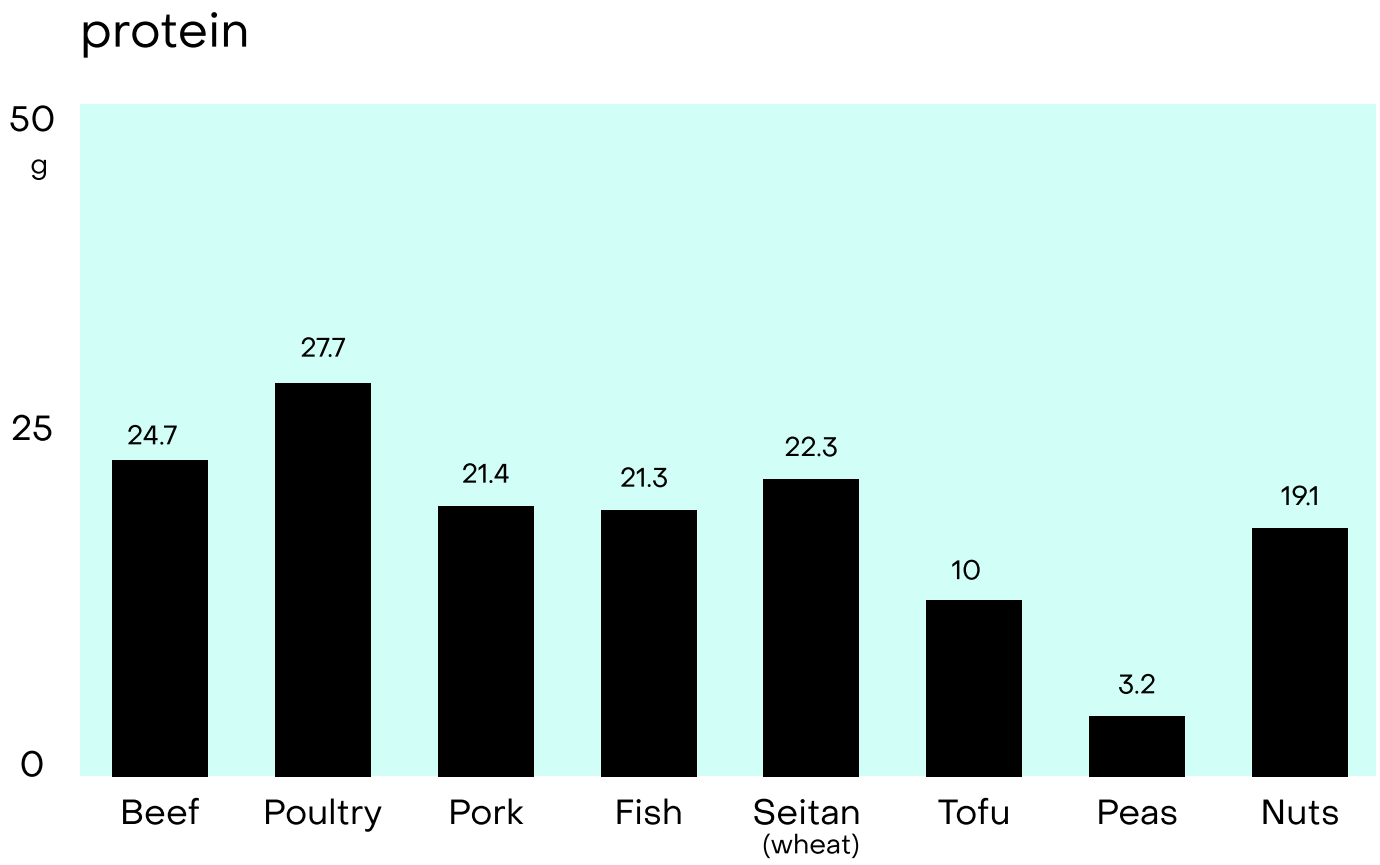
Data

Nutrition - protein

Source for data within page is cited by the first number, unless denoted specifically elsewhere

NUTRITION FACTS/EMISSIONS PER 100 GRAMS OF MEATS & ALTERNATIVES [6, 8]

Results achieved by averaging 3 Foundation type results (if exist) of product



Climate veganism

Data

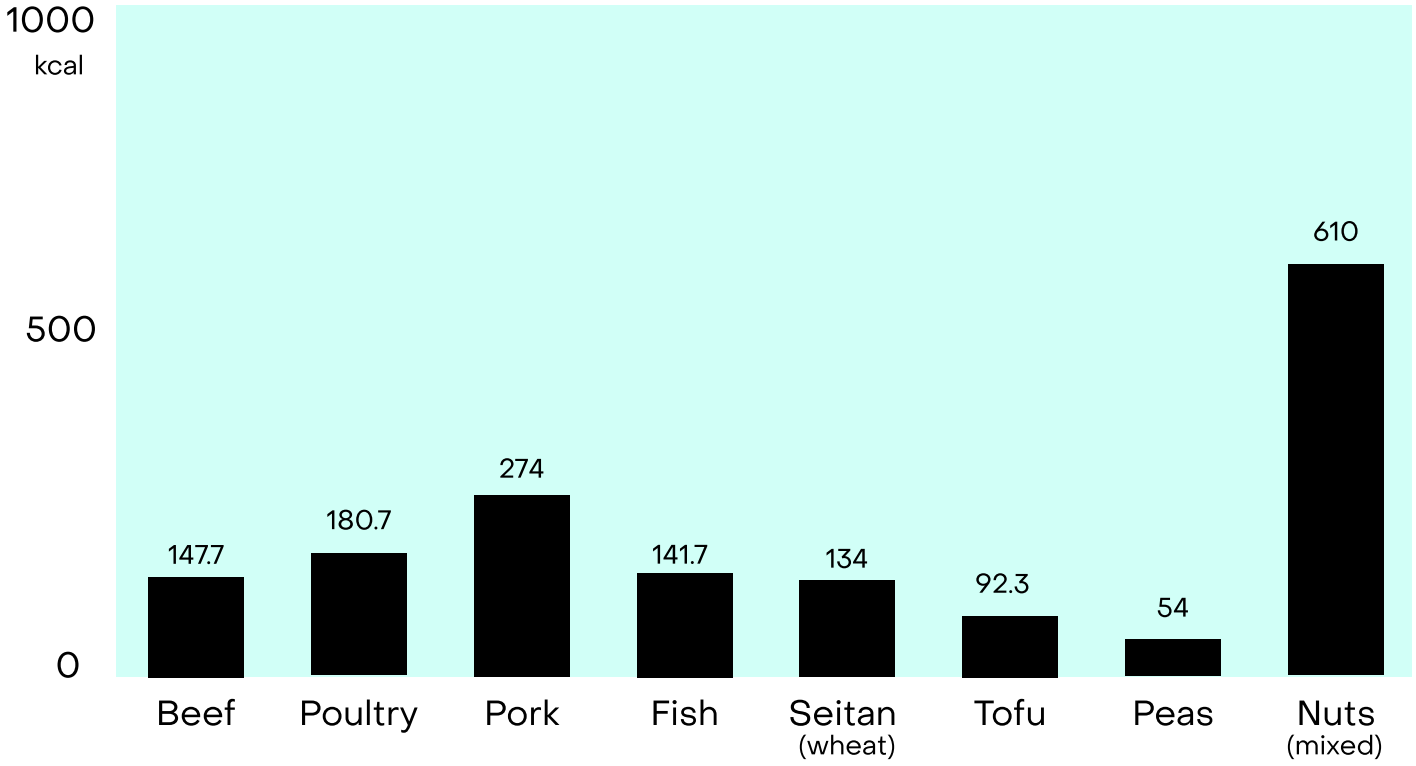
Nutrition - calorie

Source for data within page is cited by the first number, unless denoted specifically elsewhere

NUTRITION FACTS/EMISSIONS PER 100 GRAMS OF MEATS & ALTERNATIVES [6, 8]

Results achieved by averaging 3 Foundation type results (if exist) of product

calorie



Climate veganism

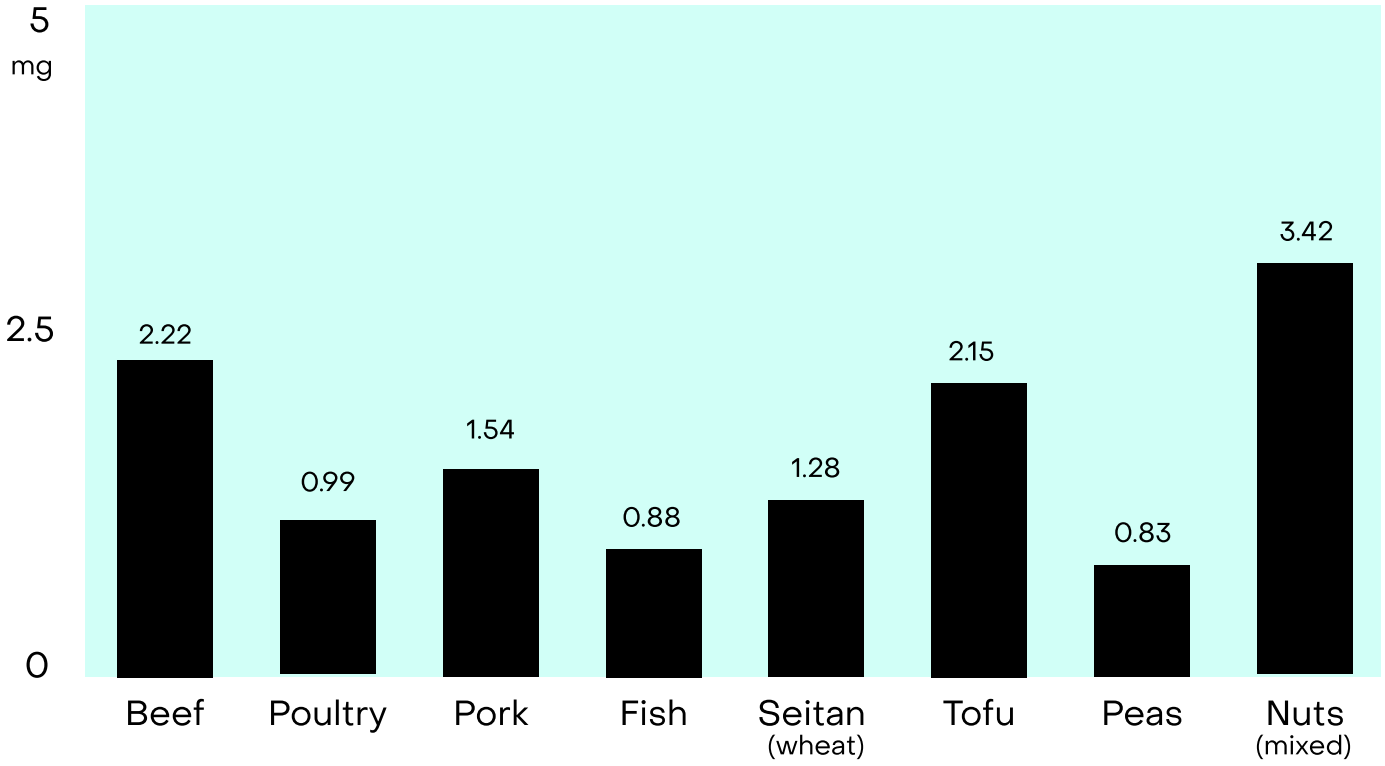
Data

Nutrition – iron

Source for data within page is cited by the first number, unless denoted specifically elsewhere

NUTRITION FACTS/EMISSIONS PER 100 GRAMS OF MEATS & ALTERNATIVES [6, 8]

Results achieved by averaging 3 Foundation type results (if exist) of product



Climate veganism

Data

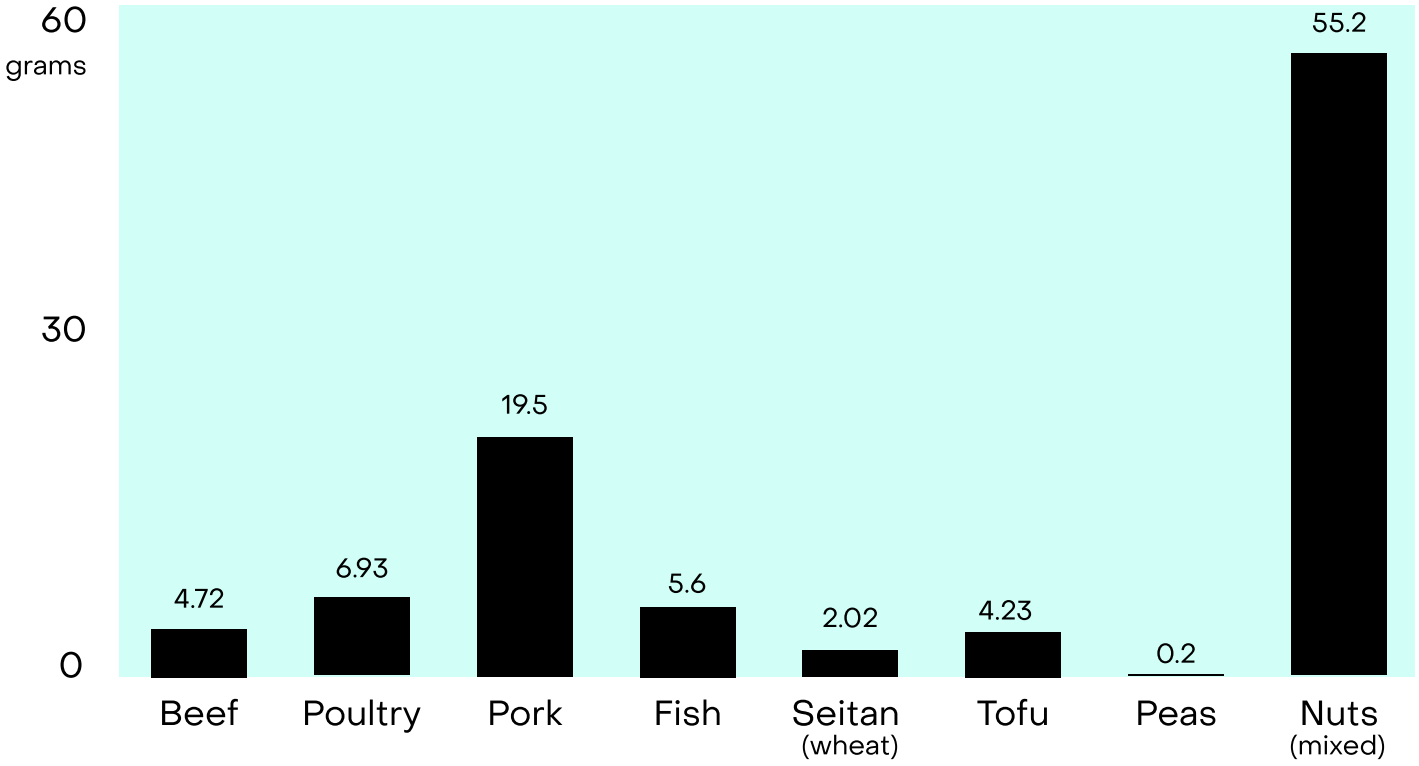
Nutrition - fats

Source for data within page is cited by the first number, unless denoted specifically elsewhere

NUTRITION FACTS/EMISSIONS PER 100 GRAMS OF MEATS & ALTERNATIVES [6, 8]

Results achieved by averaging 3 Foundation type results (if exist) of product

total fats



Climate veganism

Data

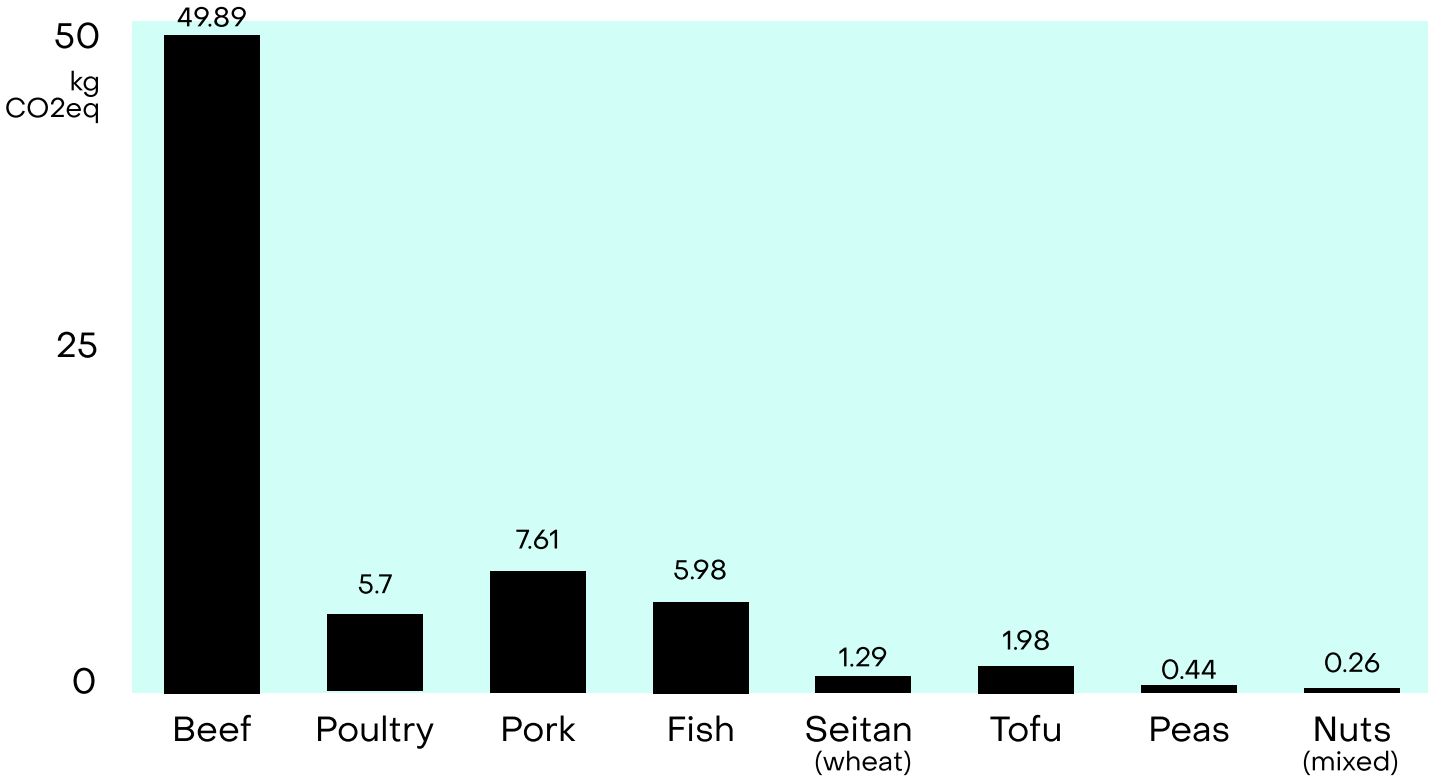
Emissions comparison

Source for data within page is cited by the first number, unless denoted specifically elsewhere

NUTRITION FACTS/EMISSIONS PER 100 GRAMS OF MEATS & ALTERNATIVES [6, 8]

Results achieved by averaging 3 Foundation type results (if exist) of product

ghg emissions per 100g of protein [3]



Climate veganism

Data

History

Source for data within page is cited by the first number, unless denoted specifically elsewhere

WHY DID OUR PREHISTORIC ANCESTORS START EATING MEAT? [4, 10]

1. Out of necessity

Ironically, climate change heated up the planet and reduced rain, making vegetation harder to find. In order to find enough food, our ancestors had no choice but to eat whatever was available, even if it moves.

2. Relative immunity to fats

In comparison to other primates, the body of our species has the genes to process high concentrations of fats and proteins. Other apes would see their lifespans reduced by half if they were to adapt the modern human diet.

3. The discovery and use of tools

The ancient human teeth were stronger and larger, adapted for processing plants. When the earliest tools started being used, our ancestors realized that the same tools can be used to pre-process meat, making it easier to digest.

4. More energy is needed for a big brain

Having a brain larger than that of other apes of course comes with its perks, but not without its quirks. The modern human brain consumes about 20% of the body's total energy, which meat, being a calorie and protein dense food, can satisfy.

Climate veganism

Data

The moral arguments

Source for data within page is cited by the first number, unless denoted specifically elsewhere

THE MORAL ARGUMENTS OF GOING VEGAN THROUGH QUOTES FROM ANIMAL LIBERATION [2]

1. We're risking the fate of billions of humans at the effects of climate change to satisfy our taste buds

"Forests and meat animals compete for the same land. The prodigious appetite of the affluent nations for meat means that agribusiness can pay more than those who want to preserve or restore the forest. We are, quite literally, gambling with the future of our planet – for the sake of hamburgers"

2. Animals cannot make a moral case for themselves, thus it's our responsibiliy

"We have to speak up on behalf of those who cannot speak for themselves."

3. We should afford animals the shame moral consistency as we do our fellow people

"To protest about bullfighting in Spain, the eating of dogs in South Korea, or the slaughter of baby seals in Canada while continuing to eat eggs from hens who have spent their lives crammed into cages, or veal from calves who have been deprived of their mothers, their proper diet, and the freedom to lie down with their legs extended, is like denouncing apartheid in South Africa while asking your neighbors not to sell their houses to blacks."

4. Intelligence isn't a moral basis to decide what should or shouldn't be eaten

"If possessing a higher degree of intelligence does not entitle one human to use another for his or her own ends, how can it entitle humans to exploit non-humans?"

5. The production of meat is so inherently wasteful that if stopped, we can practically end world hunger

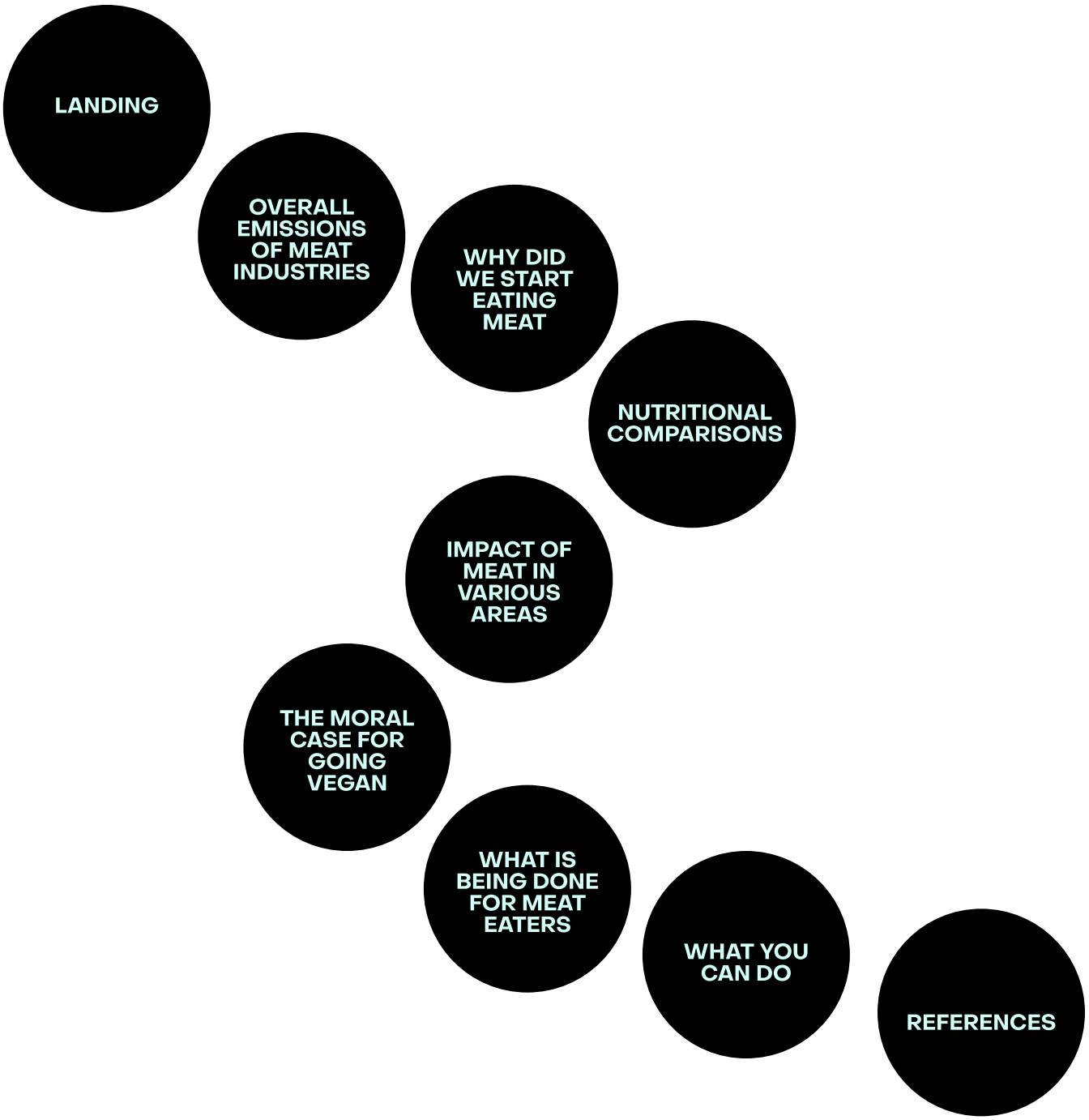
"By ceasing to rear and kill animals for food, we can make so much extra food available for humans that, properly distributed, it would eliminate starvation and malnutrition from this planet. Animal Liberation is Human Liberation too."

Climate veganism

Site flow

Source for data within page is cited by the first number, unless denoted specifically elsewhere

SITE FOLLOWS A LINEAR STRUCTURE WITH OPTIONS TO START OVER OR GO BACK TO THE PREVIOUS PAGE



Climate veganism

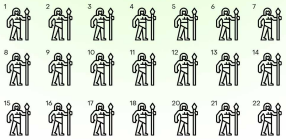
Initial sketches/ mockups

Source for data within page is cited by the first number, unless denoted specifically elsewhere

One of the greatest sources of CO2 emissions is right on your plate.

Meat industries account for as much as 18%[1] of global emissions.

Ooga booga me like meat.
But why?

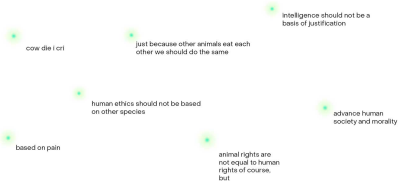


What does meat actually do for us?

chart™ pending

Hard numbers. Tough stats. Cold graphs

The moral argument



What is being done?

IMPOSSIBLE

BEYOND MEAT

What you can do

Climate veganism

Style tiles

Source for data within page is cited by the first number, unless denoted specifically elsewhere

NAMEPENDING™

Heading

OBJECT SANS BOLD 60PT

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo

OBJECT SANS REGULAR 12PT

Subheading

OBJECT SANS BOLD 30PT

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa

OBJECT SANS REGULAR 12PT

DDFFF9 B1E5DC FFFFFF 000000

static hovered clicked

One of emissio

This aesthetic was chosen due to its sanitized and plain look, which fits the subject matter more, allowing the visitor to focus on the content itself.

NamePending™

Heading

OBJECT SANS BOLD 60PT

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo

OBJECT SANS REGULAR 12PT

Subheading

OBJECT SANS BOLD 30PT

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa

OBJECT SANS REGULAR 12PT

FF887C -> B6325F B6325F FFFFFF 000000

STATIC HOVERED CLICKED

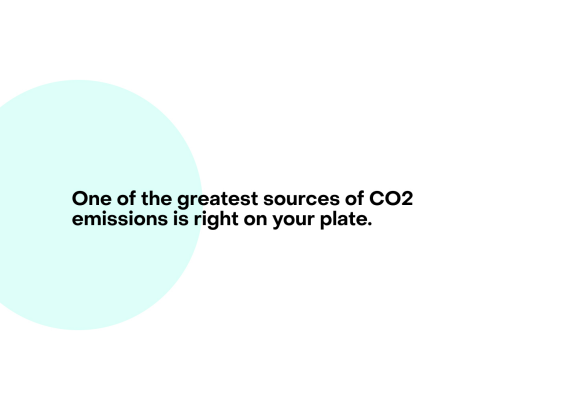
In this alternative tile, a red to orange gradient was chosen as the main theme colour to more closely link the site style to the topic of meat.

Climate veganism

Style and animation prototype

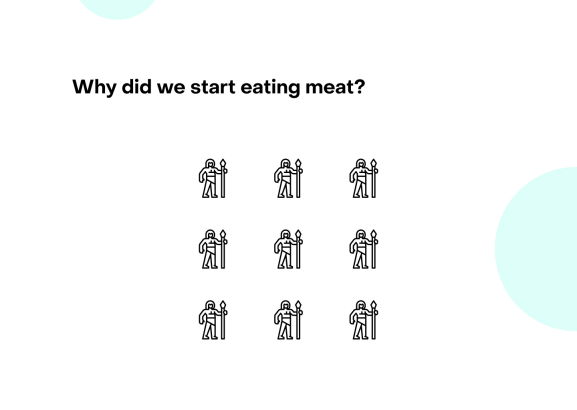
Source for data within page is cited by the first number, unless denoted specifically elsewhere

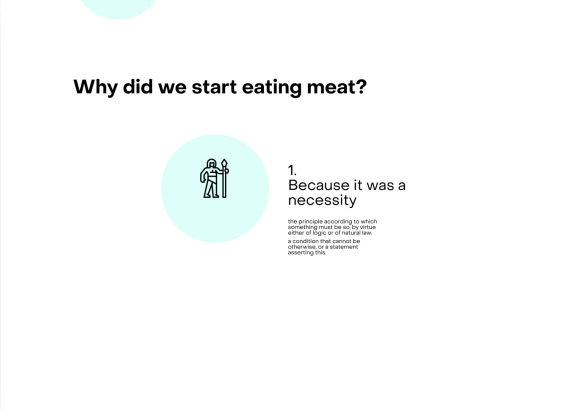
Also accessible here



The green is used for navigation hints and hover effects rather than in text/images.

Animation is focused on bringing content into or out of view, through simple fades and slides.



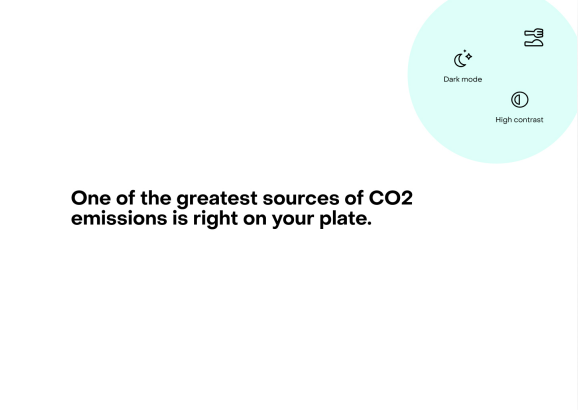


Climate veganism

Style and animation prototype

Source for data within page is cited by the first number, unless denoted specifically elsewhere

Also accessible here



Charts needed to be improved functionality wise.

A small settings area is considered for a dark mode and high contrast options, in order to make the site more accessible.