

ADVANCING SUSTAINABLE FOOD SYSTEMS:

**A Call for Ambitious Reduction Targets for U.S.
Meat Consumption**



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Executive Summary

In a world grappling with escalating environmental concerns, ethical considerations, and mounting health challenges, this comprehensive white paper emerges as a clarion call for transformative change in our dietary habits. Grounded in the sobering insights of Compassion in World Farming's *"More Money More Meat"* report, this paper underscores the imperative of reducing meat consumption in the United States by a staggering 82%.

By embarking on a profound exploration of the far-reaching impacts of current meat consumption patterns, charting out a diverse array of strategies to actualize such an ambitious reduction, and emboldening our vision with a panoramic view of the multifaceted benefits tied to embracing a more plant-centric diet, this paper stands as a beacon for a profound reconfiguration of our food system. This alteration beckons us to tread the path of both sustainability and compassion.



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Introduction

The Need for Transformative Change

1.1 Background and Context:

Relentless population growth, dynamic economic shifts, and evolving consumer preferences have caused the global appetite for meat and poultry to swell to unprecedented proportions. The complex tapestry of factors driving the meteoric rise in post-war meat consumption has been well documented.ⁱ But in recent years, more has been made of the connection between the widespread availability of cheap meat and a looming environmental and social danger.ⁱⁱ

Compassion in World Farming’s “More Money More Meat”ⁱⁱⁱ report pierces through the mist of complacency to illuminate the dire consequences of our meat-centric choices. In this white paper, we dissect the core findings of this report, revealing its meticulous exploration of the nexus between the social, ecological, and ethical concerns linked to excessive meat and poultry consumption. Hereafter, “meat” refers to both meat and poultry.



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1.2 Purpose and Scope:

Against this backdrop, the primary purpose of this white paper emerges—to roadmap toward a seismic reduction in U.S. meat consumption. Such a shift promises to recalibrate our food system on sustainability, ethics, and well-being. Through a plain retelling of the analysis and strategies behind our call for lower meat consumption, we lay the foundation for a reimagined dietary landscape.

Impacts of Excessive Meat Consumption:

Unveiling the Challenges

2.1 Environmental Footprint:

An intensive demand for meat is taking a heavy toll on our environment^{iv}. Vast tracts of forests are being razed to make way for livestock production, resulting in irreparable biodiversity loss, soil erosion^v and disruption of crucial ecosystems^{vi}. Industrial animal agriculture is a significant contributor to greenhouse gas emissions, releasing substantial amounts of methane and nitrous oxide into the atmosphere^{vii}. These emissions exacerbate global warming and accelerate climate change, leading to extreme weather events, rising sea levels, and destabilized ecosystems^{viii}.

Livestock farming requires substantial amounts of energy-intensive, industrially-produced nitrogen and mined phosphorus fertilizers to grow animal feed crops, and animal waste generates nitrogen runoff that enters water bodies^{ix}. Excess nitrogen in water systems leads to eutrophication, where excessive nutrient levels trigger algal blooms, depleting oxygen and harming aquatic ecosystems^x.

Furthermore, our insatiable appetite for meat is causing water scarcity, as it requires considerable amounts of water for animal husbandry and crop cultivation to feed livestock^{xi}. This excessive water usage depletes freshwater resources, endangering aquatic ecosystems and intensifying water-related conflicts.

Urgent action is imperative to shift away from the resource-intensive meat production model and embrace sustainable dietary choices that align with the planet's carrying capacity and safeguard our fragile ecosystems. Without a rapid and ambitious change to food systems, the Paris Climate Agreement's target to limit average global temperature increases above preindustrial levels to 1.5°C is impossible. Even the 2°C target will be extremely challenging^{xii}.

2.2 Ethical Considerations:

An unflinching gaze at the ethical dimensions of high meat consumption compels us to confront the unseen suffering of animals trapped within the machinery of factory farming. Industrial farming practices typically confine animals in cramped, unsanitary conditions, denying them natural behaviors and subjecting them to stress and suffering^{xiii}.

The routine use of antibiotics to accelerate growth and combat disease raises concerns about antimicrobial resistance, posing risks to both animal and human health^{xiv}. Animals bred for factory-farmed meat are typically subjected to painful procedures, such as debeaking and tail docking, without anesthesia^{xv}. Furthermore, the transport and slaughter processes often entail further distress and fear for these sentient beings^{xvi}.

As consumers, we hold the power to address these ethical challenges by embracing meat reduction and supporting practices that prioritize animal welfare. Transitioning toward more compassionate dietary choices can play a pivotal role in ending the cycle of suffering experienced by animals within the current industrialized meat production system^{xvii}.

2.3 Health Ramifications:

The pervasive trend of excessive meat consumption is casting a shadow over human health. High intake of red and processed meats is linked to an increased risk of chronic diseases, including cardiovascular ailments, diabetes, strokes and certain cancers^{xviii}. Processed meats laden with saturated fats and cholesterol have been associated with higher instances of obesity and its accompanying health problems^{xix}.

Moreover, the overuse of antibiotics in intensive animal farming not only fuels antimicrobial resistance but also exposes consumers to potentially harmful residues through meat consumption^{xx}. Addressing these health concerns necessitates a shift toward diets rich in plant-based foods, offering additional benefits of essential nutrients, fiber, and antioxidants that promote overall well-being and reduce the risk of chronic diseases^{xxi}. By embracing more balanced and plant-centric diets, we can unlock the potential for improved health outcomes and a brighter future for ourselves and generations to come.



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Calculating Required Reductions in Meat Consumption

U.S. Climate Goals Imperiled by Excessive Meat Consumption

Ahead of the upcoming U.N. General Assembly, Climate Week NYC, and COP 28. Compassion in World Farming has assessed the meat reduction necessary for the United States. This is part of a larger, world-first research project to provide detailed calculations for the amounts of animal-sourced foods consumed by the world's 103 high- and middle-income countries. This research compares two primary sources: Meat consumption data from the Food and Agriculture Organization, and the amounts recommended in the EAT-Lancet Planetary Health Diet. This yields the percentage reduction required by the United States across all animal-sourced foods to ensure a healthy future for people, animals and our planet.

3.1 The EAT-Lancet Commission:

The basis for Compassion in World Farming's calculation of necessary meat reduction starts with the 2019 recommendations of the EAT-Lancet Commission^{xxii}. The 37 scientists from 16 countries, working in various fields such as human health, agriculture, political science, and environmental sustainability, published what became known as the "Planetary Health Diet^{xxiii}." Along with other suggested measures, such as halving food loss and waste and improving food production practices, the Commission developed global scientific targets for healthy diets from sustainable food systems to achieve the Sustainable Development Goals (SDGs) and objectives of the Paris Climate Agreement.

The Planetary Health Diet contains a diversity of plant-based foods, is low in animal-sourced foods, contains a higher level of unsaturated rather than saturated fats and limited amounts of highly processed foods and added sugar, adding up to an optimal calorie intake of around 2,500 kcal/day. The EAT-Lancet Commission-recommended diet contains 334 grams of animal-sourced foods, with 0-86 grams of meat per person per day.

*Comparing the amount of per capita meat consumption in the U.S. with the target average for consumption of meat in the EAT-Lancet Planetary Health Diet, Compassion in World Farming's research team calculated that the U.S. would require a massive **82% reduction** in total meat consumption to meet the specifications of the Planetary Health Diet.*



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3.2 The Food and Agriculture Organization:

The Food Balance Sheets dataset published by the Food and Agriculture Organization (FAO) of the United Nations provides caloric breakdowns for 103 high- and middle-income countries, including the United States^{xxiv}. The data show that the average American consumes 233.3 grams of meat daily, the most of any country in the world.

Comparing the amount of per capita meat consumption in the U.S. with the target average for consumption of meat in the EAT-Lancet Planetary Health Diet, Compassion in World Farming’s research team calculated that the U.S. would require a massive 82% reduction in total meat consumption to meet the specifications of the Planetary Health Diet.

While all 25 of the highest meat-consuming countries need to reduce their meat consumption to align with the Planetary Health Diet, the U.S. tops the list of countries with the most work to do. Australia and Argentina follow a close second with 80% each, and Israel and Spain round out the top 5 with a 78% reduction in meat consumption required to meet the criteria of a healthy diet from a sustainable food system.

3.3 Breaking Down U.S. Meat Consumption

Of the 233.3 grams of meat consumed daily per person in the United States, the FAO data suggests that almost half (109 grams) is from poultry meat (chicken, turkey, goose, duck,

etc.) The second biggest meat category is bovine, with the average American eating roughly 71 grams per day. Roughly 54 grams of pig meat are eaten per person per day. Negligible amounts of mutton and goatmeat are consumed in the U.S.

The data show that the amount of poultry meat consumed in the U.S. has increased by about 15% over the previous decade. Pig meat has also experienced an increase, though less steep, of around 9%. In contrast, bovine consumption has ticked down with around a 2% reduction.



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Crafting Strategies for a Seismic Reduction in Meat Consumption

Enabling Reduction in the United States and other High-Consuming Countries

4.1 Interdisciplinary Policy Collaboration:

Cooperation across policy areas, such as agriculture, nutrition, health, trade, climate and environment, is needed to enable dietary change and contribute to the transformation of food systems. Strategies or action plans that can trigger change must combine these policy areas, bringing together stakeholders, and involve multiple measures to make transformation happen at scale.

4.2 Promote Plant-Centric Diets:

Promoting the versatility of plant-based diets has long been part of the journey toward a more harmonious future. From culinary education to showcasing the vibrancy of plant-based cuisine, individual dietary change through a rebalancing of the food plate will necessarily be part of the movement for food systems change.

The Dietary Guidelines for Americans provide nutrition recommendations from the U.S. government through its respective agencies^{xxv}. Despite the promotion of diets with relatively lower amounts of red and processed meats, consumption remains unhealthily high. Studies have shown that plant-based diets are insufficiently recommended within dietary guidelines, and the merits of plant-forward diets in terms of ethics and sustainability should be further considered when guiding people's food choices^{xxvi}.

4.3 Behavior Change and Education:

The psychology of behavior change is a growing area for exploration in affecting dietary patterns. Behavioral economics prods the subconscious through mechanisms such as default veg food choices, the architecture of menu design and through socially normalizing plant-centric diets. Consumer nudging by making healthy diets the most appealing option provides a less-invasive means of seeding a food revolution.

4.4 Regulatory Approaches:

Governments emerge as powerful agents of change as we consider the realm of regulations. Meat taxes, subsidies for plant-based innovation, and ensuring a competitive landscape for meat alternatives are relatively untapped areas of policy potential, promising to tip the balance in favor of a more humane and sustainable food system. Olivier De Schutter, former U.N. Special Rapporteur on the right to food, has said that “any society where a healthy diet is more expensive than an unhealthy diet is a society that must mend its price system^{xxvii}.”

Altering price instruments to incentivize a move away from industrial production and consumption of animal-sourced foods toward regenerative farming and less animal-dependent diets can help raise public revenue, which can go towards lowering the price of healthy, predominantly plant-based diets from sustainable food systems and potentially sending high demand for meat the way of tobacco.

4.5 Public Procurement:

At 25% of gross domestic product, U.S. government spending is a powerful driver of innovation and change. Public investment in research and innovation for cell-cultivated meat, plant-based proteins, and protein from fermentation has the potential to be the driving force in the development of viable and widespread alternatives to meat derived from animals.

Public bodies should also be some of the first to provide meals (e.g., in schools and hospitals) produced to high nutritional, environmental and animal welfare standards with a commensurate targeted reduction in animal-sourced foods, setting an example for other sectors to follow.

4.6 Industry Collaboration:

At the crossroads of supply and demand, the food industry is uniquely poised to champion the cause of meat reduction. Many leading businesses are already committed to a more sustainable future through emissions reduction targets, pledges to restore biodiversity, and reducing waste. Experts increasingly believe that many ESG and SDG-aligned targets will not be achievable unless meat reduction is built into most food companies’ sustainability goals^{xxviii}.

Innovation, marketing strategies, and collaborative NGO partnerships can pave the way for an industry-wide transformation. Food companies can report annually on metrics, including

protein sales by category and the public benchmarking of businesses against such reports and commitments.

4.7 Mobilizing international finance and trade:

Factory farming could not exist without the vast investments by U.S.-based international financial institutions and commercial banks. Turning back the tide on the proliferation of cheap meat by limiting funding for more destructive forms of animal production and instead investing in regenerative farming from more non-animal sourced proteins will help correct a century of harmful lending policies. Ensuring that the free flow of capital and goods aligns with national and regional meat reduction targets will further limit the spread of harmful industrialized agriculture practices to more parts of the world.



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Benefits of Transitioning to Reduced Meat Consumption

Planet, People and Animals

5.1 Environmental Sustainability:

From shrinking carbon footprints to replenishing dwindling land and water resources, the many environmental benefits of reduced meat consumption suggest a more harmonious relationship with the planet:

- **Protection of Natural Habitats:** Reducing meat consumption can play a crucial role in safeguarding natural habitats by curbing the expansion of land used for livestock grazing and feed crops. This shift can help mitigate habitat destruction and conserve wildlife.
- **Reduced Greenhouse Gas Emissions:** By consuming less meat, the demand for livestock production decreases, leading to lower emissions. This helps mitigate climate change, reduce global warming, and contributes to Nationally Determined Contributions under the Paris Agreement.
- **Water Conservation:** Reduced meat consumption lessens the strain on water resources from animal husbandry and crop cultivation, which require substantial amounts of water. Less intensive water demand can reduce water scarcity risks and help ensure the sustainability of freshwater ecosystems.
- **Biodiversity Restoration:** Reduced meat consumption can help the preservation of biodiversity through the rewilding of previous inefficient agricultural land, protecting the fragile balance of ecosystems and supporting natural carbon sinks.
- **Minimized Deforestation:** Consuming less meat reduces demand for land on which livestock need to graze or animal feed crops, such as soybeans and corn, need to be grown, thereby reducing deforestation rates and preserving vital carbon-absorbing arboriculture.
- **Lower Energy Consumption:** Reduced meat consumption leads to reduced energy demand, contributing to decreased fossil fuel consumption and associated environmental impacts.
- **Mitigated Pollution:** Livestock farming can contribute to water and soil pollution through the release of animal waste, and the use of fertilizer and pesticides in the production of feed crops. As meat consumption decreases, the burden of pollution associated with the release of animal waste, fertilizers, and pesticides also diminishes, leading to improved water and soil quality.

- **Improved Air and Water Quality:** A reduction in meat consumption alleviates the impact of emissions and runoff loads on the environment, leading to better air quality and healthier waterways.
- **Reduced Waste Generation:** Lower meat consumption means reduced waste through animal byproducts and packing materials, which can lead to less landfill space used and reduced environmental impacts of waste disposal.
- **Resilient Food Systems:** Transitioning to more plant-based diets diversifies food systems, reducing the vulnerability of relying heavily on a few resource-intensive commodities. This promotes more resilient and adaptable food systems in the face of climate change and other sudden supply shocks.

Collectively, these environmental benefits underscore the critical role that reduced meat consumption plays in moving toward a more sustainable, balanced, and harmonious relationship with our planet.

5.2 Animal Welfare Enhancement:

Reduced meat consumption also brings significant animal welfare benefits by reducing the demand for factory-farmed animal products and promoting more ethical treatment of animals. Here are some of the critical animal welfare advantages:

- **Improved Living Conditions:** With reduced demand, animals raised for meat can be reared in less crowded and more spacious environments. Improved living conditions allow animals to experience less stress and have a better quality of life.
- **Reduced Suffering:** Lower meat consumption translates to less suffering for animals subjected to painful procedures, such as debeaking, tail docking, and castration without anesthesia, as well as a reduced likelihood of experiencing health problems associated with overcrowding.
- **Decreased Antibiotic Use:** Reduced meat consumption facilitates the use of more robust breeds of animals and extensive methods of production which are less dependent on antibiotic use. This may reduce the demand for routine antibiotic use for growth promotion and disease prevention in livestock, contributing to better animal welfare and a lower risk of antimicrobial resistance in humans.
- **Support for More Humane Farming Practices:** As demand shifts away from factory-farmed products, there's an opportunity for smaller-scale, more humane farming practices to flourish. These practices prioritize animal welfare, allowing animals to engage in natural behaviors, have access to outdoor spaces, and lead less stressful lives.
- **Cultural Change:** A shift toward reduced meat consumption may reinforce more positive attitudes toward animals and their use in other areas. This cultural change

may foster increased empathy and respect for animals, influencing broader societal perceptions and attitudes.

The animal welfare benefits of reduced meat consumption exemplify respect for sentient beings and a commitment to their ethical treatment. By making conscious choices, individuals contribute to a more humane and responsible relationship with the animals with whom we share our planet.

5.3 Health Improvements:

The direct health consequences of reduced meat consumption extend from greater public health benefits to more personal well-being due to embracing a more plant-based diet.

- **Lower Risk of Chronic Diseases:** By consuming less meat, individuals can lower their risk of developing chronic diseases such as heart disease, stroke, type 2 diabetes, and certain types of cancer, improving overall longevity and quality of life.
- **Reduced Exposure to Harmful Particles and Gases:** Meat reduction can limit the amount of ammonia from animal waste, which, when reacting with other chemical compounds in the air, can form particulate matter that can penetrate deep into the lungs, causing long-term illnesses such as Chronic Obstructive Pulmonary Disease and lung cancer.
- **Weight Management:** Plant-centric diets tend to be lower in calories and saturated fats, making them conducive to weight management and obesity prevention. A shift towards plant-centric meals can help individuals achieve and maintain a healthy weight.
- **Reduced Antibiotic Resistance:** Reduced meat consumption, especially from systems of production dependent on high levels of antibiotic use, can help mitigate the spread of antibiotic-resistant bacteria, preserving the effectiveness of life-saving drugs.
- **Healthcare Cost Savings:** Lower rates of chronic diseases and reduced healthcare utilization result in cost savings for healthcare systems as well as individuals. This can alleviate the financial burden of treating preventable diseases and the economic costs associated with lower workplace productivity.

By embracing a diet that places greater emphasis on plant-based foods, individuals can experience a broad spectrum of health benefits that encompass physical, mental, and emotional well-being. The public health advantages of reduced meat consumption can be part of a holistic approach to wellness that not only benefits individuals but also contributes to the overall health of communities and societies.

Overcoming Challenges in Implementation

Solutions for Scale and Complexity

6.1 Cultural Sensitivity:

Meat consumption is deeply ingrained in U.S. cultural and traditional dietary habits, with animal-sourced foods representing some of the most iconic American foods. Policies promoting meat reduction may initially face resistance from individuals and communities who perceive such changes as threatening their cultural identity. Highlighting the many benefits of reduced meat consumption while offering familiar and satisfying plant-based alternatives may be key to fostering cultural respect and an open and inclusive dialogue that bridges the gap between the past, present and future.

6.2 Price, Taste and Convenience:

Prevailing wisdom suggests that when meat alternatives become more readily available, when they taste and feel as good as or better than animal-based meat, and when the price of substitutes falls below that of conventionally produced meat, there will be a marked shift in consumer preferences away from unsustainable meat consumption. While some experts believe that social and psychological factors play an overriding role in determining food choices, meat consumption is likely to be negatively impacted by increased investment in developing and scaling legitimate alternatives.

6.3 Government resistance:

Initiating policies that require significant dietary changes could face resistance from officials concerned about public backlash or the perception of government overreach. Building bipartisan support by emphasizing the health, environmental, and economic benefits of meat reduction in open dialogues may help to address the concerns of policymakers and their constituents. Building public support by galvanizing mass awareness of the urgency of the meat consumption problem will likely be a necessary part of changing the political landscape.

6.4 Industry Resistance:

The industrial meat industry wields significant economic and political influence and may resist meat reduction policies due to concerns about revenue losses and job cuts. Collaborating with industry stakeholders to develop sustainable transition plans that support protein diversification efforts and preserve jobs may neutralize resistance from forward-looking companies. Highlighting a winning business strategy for the adoption of meat alternatives and reductions in meat production and consumption can help reshape supply chains and forge successful partnerships in the crucible of change.

Conclusion:

Our excessive appetite for meat is harming us, damaging our planet, and depriving farmed animals of lives worth living. Urgent global action is needed to transform diets and shift food production away from factory farming methods and towards regenerative, nature-positive farming methods with a far greater reliance on non-animal-sourced foods.

Without a substantial reduction in meat consumption in the United States—the biggest per capita meat consumer in the world—we are unlikely to hit scientific targets for healthy diets from sustainable food systems to enable the achievement of the Sustainable Development Goals (SDGs) and the Paris Climate Agreement.

Implementing such a dramatic reduction in U.S. meat consumption comes with enormous strategic opportunities that pull on all levers of society, from the individual to the collective. And the benefits of such an achievement might just save us all.

However, creating such a transformation in our food system is notable for its challenges as well as its rewards. Policymakers and advocates must remain committed to achieving long-term goals, requiring a comprehensive approach that includes policy flexibility, stakeholder engagement, education, research, and collaboration across sectors. By considering these challenges and tailoring strategies to overcome them, policymakers can work toward successfully promoting meat reduction while navigating the complexities of societal attitudes and behaviors.

With the construction of our existing food system producing increasingly alarming daily events, every reader of this white paper, from policymakers to consumers, should embrace their role as architects of transformation. We extend an invitation to join the movement toward a reimagined food future—an ecosystem of nourishment where the planet renews, animals thrive, and humans prosper in bountiful harmony with the environment and each other.

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