

Summary



In 2023, the Food and Agriculture Organisation estimated that the annual hidden costs of our global food system reached at least 10 trillion dollars.¹

There is no doubt that our dietary habits are far from sustainable, and our food production is increasingly more vulnerable with the growing number of challenges and crises our society faces. The European Union acknowledged this fact in the Farm to Fork Strategy, which was supposed to become a pillar of transition towards a sustainable food system. However, the Strategy remained mostly on paper, and the idea of reforming the way we produce food fell through on account of strong industry lobbying in the run-up to the European elections in June 2024. With its new flagship, the Vision for Agriculture and Food, introduced in 2025, it appears that the EU aims to maintain the status quo and ignore the elephant in the room – the deeply flawed model of food production and consumption we continue to rely on.

But we can no longer afford inaction. In order to feed the growing human population within planetary boundaries, business-as-usual cannot continue. As repeatedly stressed by scientists across the world, the consumption of meat, dairy, and eggs in industrialized regions, such as the European Union, must rapidly decrease, and we need to shift our food system, which relies heavily on animal-based products, to one that revolves around plant-based protein. However, the much-needed discussion around agrifood reform is muddied with scientifically unsound arguments stemming from prejudices and disinformation.

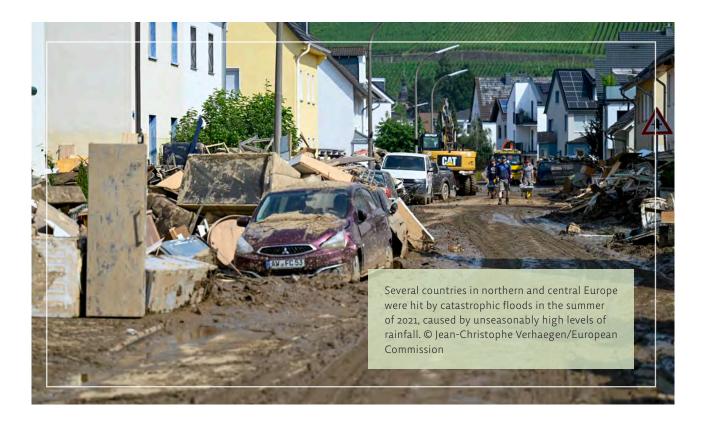
In this paper, we would like to present why switching to plantrich diets benefits all – the farmers, the planet, our health, and, of course, the animals.

FARMERS

- 2 European Environment Agency (2024). European climate risk assessment. Publications Office of the European Union, Luxembourg. ISBN 978-92-9480-627-7. doi: 10.2800/204249.
- 3 M. Kotz, A. Levermann, & L. Wenz (2024). *The economic commitment of climate change.* Nature 628, 551–557. doi: 10.1038/s41586-024-07219-0.
- 4 Our World in Data (2021).
 Emissions from food alone could use up all of our budget for 1.5°C or 2°C but we have a range of opportunities to avoid this. Retrieved from: https://ourworldindata.org/food-emissions-carbon-budget

Each year, temperature records are broken in Europe, with countries often sweltering under extreme heat waves. Europe is now the fastest-warming continent in the world.² Recent research backed by the German government estimates that damage caused by climate change could cost \$38 trillion per year by 2050. On the other hand, the cost of mitigating measures to limit global warming as per the Paris Agreement, i.e. to a maximum of 2° Celsius compared to pre-industrial temperatures, is estimated at \$6 trillion.³ Shifting our focus to other areas of EU policy, such as transport or energy, while overlooking agriculture will not be our saving grace. Food emissions alone would take us beyond the 1.5°C target and very close to the 2°C target, even if we stopped burning fossil fuels today.⁴

This fact is continuously ignored in EU agriculture policymaking, under the heavy influence of vested economic interests. As



- 5 A.J. Kortleve, J.M. Mogollón, H. Harwatt et al. (2024). Over 80% of the European Union's Common Agricultural Policy supports emissions-intensive animal products. Nat Food 5, 288–292. doi: 10.1038/s43016-024-00949-4.
- 6 J. Rieger, F. Freund, F.
 Offermann, I. Geibel, A. Gocht
 (2023). From fork to farm:
 Impacts of more sustainable
 diets in the EU-27 on the
 agricultural sector. Journal for
 Agricultural Economics 74(3),
 764-784. doi: 10.1111/14779552.12530.
- 7 Impact Institute (2023). External Costs of Animal Sourced Food in the EU. Retrieved from: https://www. eurogroupforanimals.org/library/ external-costs-animal-sourced-foodseu.
- 8 Z. Sun, L. Scherer, Q. Zhang et al. (2022). Adoption of plantbased diets across Europe can improve food resilience against the Russia-Ukraine conflict. Nat Food 3, 905-910. doi: 10.1038/s43016-022-00634-4.

a result, the continuation of agricultural exceptionalism in environmental policies under the guise of "helping and supporting farmers" will eventually end up costing them much more and will have a disastrous effect on their businesses and public finances through damage-related payments in the long run. Globally, animal farming is heavily subsidized (in the EU, with 80% of agricultural subsidies under the Common Agricultural Policy)⁵ and, consequently, large expenditures are required to address its environmental and societal impacts. While it is often claimed that EU agriculture depends on profits from animal farming, a 2023 study argues that shifting our diets to the EAT-Lancet model, i.e., a diet based on plant sources with only a modest amount of animal-based foods, would actually increase overall agricultural incomes.⁶

The cost of the negative externalities of animal farming, which are not reflected in the price of cheap meat, dairy, and eggs, reached more than €1.5 billion in 2022, which is seven times more than the economic costs of producing animal-sourced foods.⁷ This makes animal farming incredibly cost-ineffective, and the public funds could be instead used to support farmers to shift their business towards more efficient plant-based production. That way, farmers would also be better protected against crises such as the Ukraine-Russia war, which caused a great upheaval on the EU's agricultural market, as a plant-based food system is more resilient and secure, reducing dependency on volatile imports and reinforcing the EU's strategic autonomy in food production.⁸



THE PLANET

- 9 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on an EU strategy to reduce methane emissions, COM/2020/663 final.
- 10 European Environment Agency (2023). EMEP/EEA air pollutant emission inventory guidebook 2023 Technical guidance to prepare national emission inventories. Retrieved from: https://data.europa.eu/doi/10.2800/795737.

Factory farming, a predominant method of animal rearing which now produces most animal products on the market, can only be described as an environmental disaster. Agriculture is a global driver of climate change, by producing half of the methane emissions in the EU9 as well as two-thirds as ammonia emissions, 10 and it significantly contributes to water pollution, land degradation and biodiversity loss, 11 with many species of wild animals being pushed to extinction by the expansion of factory farming.

As animal farming is dependent on a supply of huge quantities of feed, around 70% of farmland in the EU is dedicated to growing crops which are then fed to animals. Even rare remote ecosystems are impacted by our consumption patterns, including the Amazon Rainforest, to whose destruction the EU contributes by importing soy to feed animals on farms.



- 11 H. Steinfeld, P. Gerber, T.
 Wassenaar, V. Castel, M.
 Rosales, C. de Haan (2006).
 Livestock's long shadow.
 Food and Agriculture
 Organisation. Retrieved from:
 https://openknowledge.fao.org/bandle/20.500.14283/a0701e.
- 12 Greenpeace (2019). Feeding the Problem: the dangerous intensification of animal farming in Europe. Retrieved from: https://www.greenpeace.org/eu-unit/issues/nature-food/1803/feeding-problem-dangerous-intensification-animal-farming/.
- 13 Our World in Data (2024). Half of the world's habitable land is used for agriculture. Retrieved from: https://ourworldindata.org/global-land-for-agriculture.
- 14 H. Ritchie (2021). If the world adopted a plant-based diet, we would reduce global agricultural land use from 4 to 1 billion hectares. Retrieved from: https://ourworldindata.org/land-use-diets.
- 15 H. Ritchie (2021). What are the carbon opportunity costs of our food? Retrieved from: https://ourworldindata.org/carbon-opportunity-costs-food.
- 16 P. Scarborough, M. Clark, L. Cobiac et al. (2023). Vegans, vegetarians, fish-eaters and meat-eaters in the UK show discrepant environmental impacts. Nat Food 4, 565-574 (2023). doi: 10.1038/s43016-023-00795-w.
- 17 Yale Center for Business and Environment (2016). Disrupting Meat. Retrieved from: https://cbey.yale.edu/our-stories/disruptingmeat.

Despite the huge price that needs to be paid to keep the machinery of factory farming going, meat, dairy and farmed fish only provide 17% of calories worldwide, and 38% of protein. Unbelievably, with 38 million square kilometres of global land used for animal agriculture, the industry covers a surface nearly the same size as all forests combined.¹³

Plant-based diets are considered to have a significantly smaller negative impact on the environment. To feed the world a plant-based diet, we would only need 25% of the land used now. Abandoned farmland, where trees and wild grasslands would return, could sequester around 15 years worth of emissions at our current levels by 2050. A recent study showed that compared to diets containing 100g of meat daily or more, a plant-based diet produces only 25% of greenhouse gas emissions, while also decreasing the impact on biodiversity by 65%, eutrophication (excessive enrichment of the environment with nutrients) by 73% and water use by 54%.

Ultimately, animal products are very resource-intensive, but most of these resources end up wasted due to an inefficient calorie conversion. For example, to produce 1 calorie of beef, we need 25 calories of feed; for pork, it is 15.¹⁷ Plant-based diets remove the "intermediary", i.e. the animals, and humans consume the calories directly, making this type of diet considerably less wasteful. Switching to a more resource-effective diet is urgently needed, considering the challenges that climate crisis brings and the growing human population on Earth.



Workers at a Greek chicken processing plant prepare hundreds of carcasses for packaging. This facility can process up to 10,000 birds daily. © Milos Bicanski, We Animals

HEALTH

- 18 European Environment Agency (2024). Veterinary antimicrobials in Europe's environment: a One Health perspective. Retrieved from: https://www.eea.europa.eu/publications/veterinary-antimicrobials-in-europes-environment.
- 19 United Nations Environment Programme and International Livestock Research Institute (2020). Preventing the Next Pandemic: Zoonotic diseases and how to break the chain of transmission. Retrieved from: https://www.cbd.int/doc/c/o84c/e8fd/84ca7feoe19 e69967bbgfb73/unep-sa-sbstta-sbi-o2-en.pdf.
- 20 Eat-Lancet (2019). The
 EAT-Lancet Commission
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 Commission_Summary_Report.pdf.

To compensate for poor conditions on farms, animals kept for food production are fed antibiotics. Globally, over 70% of antibiotics are used for this purpose, including last-resort antibiotics crucial for human medicine, increasing antimicrobial resistance. As animals are bred to be genetically homogenous and are kept in groups of enormous numbers, animal farms are an ideal place for pathogens to spread and mutate, posing a threat as a potential birthplace of future zoonoses. 19

According to EAT-Lancet, a healthy diet respecting planetary boundaries is mostly plant-based, consisting mainly of vegetables, fruits, and grains, with only a modest amount of animal-based protein.²⁰ The prejudice around the unhealthiness of plant-based diets has repeatedly been rebutted and, on the other hand, their health benefits are now more highlighted.²¹ However, the so-called "Big Agri" still leads what could be characterized as a war on plant-based diets, especially alternatives to meat and dairy, on account of their being ultra-processed, while inflating the positive



- 21 P.J. Tuso, M.H. Ismail, B.P. Ha, C. Bartolotto (2013). Nutritional update for physicians: plant-based diets. Perm J. Spring 17(2), 61-6. doi: 10.7812/TPP/12-085.
- 22 Changing Markets (2023).

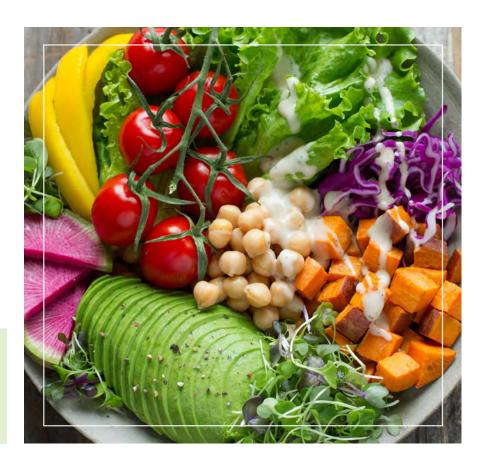
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 https://changingmarkets.org/report/truth-lies-and-culture-wars-social-listening-analysis-of-meat-and-dairy-persuasion-narratives/.
- 23 R. Cordova, V. Viallon, E. Fontvieille, L. Peruchet-Noray, A. Jansana, K.H. Wagner et al. (2023). Consumption of ultra-processed foods and risk of multimorbidity of cancer and cardiometabolic diseases: a multinational cohort study. The Lancet Regional Health Europe 35. doi: 10.1016/j. lanepe.2023.100771.
- 24 World Health Organisation (2015). Cancer: Carcinogenicity of the consumption of red meat and processed meat.

 Retrieved from: <a href="https://www.who.int/news-room/questions-and-answers/item/cancer-carcinogenicity-of-the-consumption-of-red-meat-and-process
- 25 Eurostat (2022). How much fruit and vegetables do you eat daily?. Retrieved from:

 https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220104-1.
- 26 European Commission (2024).
 Cost of Non-Communicable
 Diseases in the EU. Retrieved
 from: https://knowledge4policy.ec.europa.eu/health-promotion-knowledge-gateway/cost-non-communicable-diseases-eu_en.

Only 12% of EU citizens eat the recommended portions of vegetables, while a third of the population do not even consume fruits and vegetables daily. © Anna Pelzer impacts of meat and dairy consumption.²² But a recent WHO-backed study found that while regular consumption of ultra-processed meat products, such as sausages, increases the risk of cancer, heart disease or diabetes, plant-based meat alternatives are not associated with the risk of multimorbidity.²³

The negative impacts of red and processed meat on health have been acknowledged by international bodies such as the World Health Organisation (WHO)²⁴ and EU policies, including the Farm to Fork Strategy and Europe's Beating Cancer Plan, both highlighting the need to reduce the consumption of meat. However, little has been done to actually address the overconsumption of cheap meat and dairy and to incentivize the consumption of nutritional and healthy plant-based foods. In the EU, only 12% of citizens eat the recommended portions of vegetables, while a third of the population do not even consume fruits and vegetables daily.25 Unhealthy diets, which are perpetuated by the food environment favouring cheap animal products, and food high in salt, sugar, and fat, contributes significantly to direct health-related costs for the sector in treating non-communicable diseases, as well as indirect ones, such as productivity losses due to morbidity and mortality, early retirement, and costs of informal care.²⁶



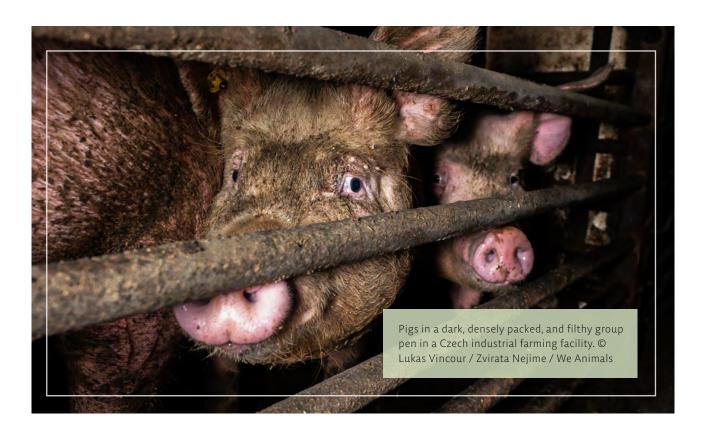
ANIMALS

- 27 Eurogroup for Animals (2021).

 Animal welfare at the time of killing and slaughter.

 Retrieved from: https://www.eurogroupforanimals.org/library/animal-welfare-time-killing-and-slaughter.
- 28 Our World in Data. Per capita meat consumption by type. Retrieved from: https://ourworldindata.org/grapher/per-capita-meat-consumption-by-type-kilograms-per-year.
- 29 H. Ritchie (2023). How many animals are factory-farmed? Retrieved from: https://ourworldindata.org/how-many-animals-are-factory-farmed.

Around 10 billion farmed animals are killed each year in the EU,27 as a result of the overconsumption of meat, which is now double the world average.²⁸ The EU's ambitions in exporting animal products or live animals to third countries further boosts the number of animals farmed. A majority of these animals are kept in factory farms, 29 which are characterized by overlooking animals' physiological and behavioural needs at the expense of increasing profits. Animals are usually kept inside their whole lives without any or with very limited access outside, in enormous groups where aggression or even cannibalism is a common occurrence. Very little space given to individual animals, who are often confined to cages which do not allow for even basic movement. Painful mutilations, which punish animals for their inability to cope with an unsuitable environment, are carried out on hundreds of millions of animals without any medication to reduce the pain. Three quarters of EU animal production now originates from the

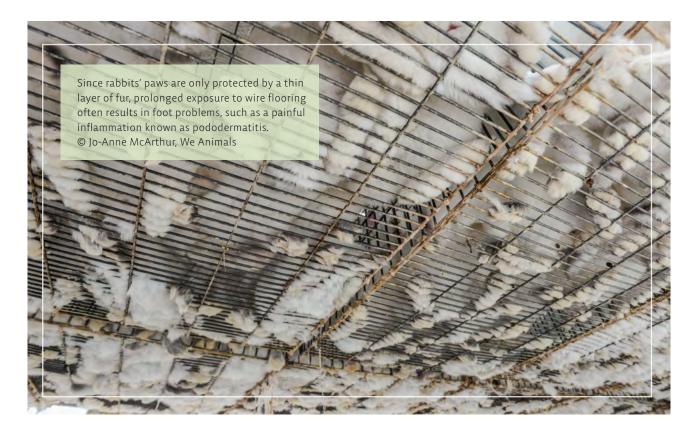


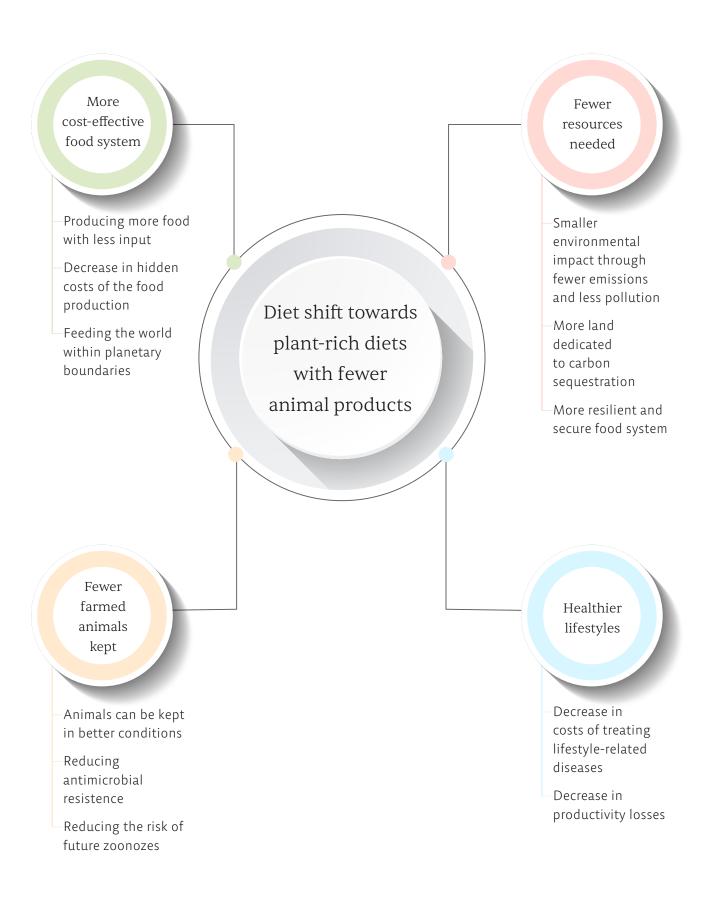
30 Greenpeace (2019). Feeding the Problem: the dangerous intensification of animal farming in Europe. Retrieved from: https://www.greenpeace.org/eu-unit/issues/nature-food/1803/feeding-problem-dangerous-intensification-animal-farming/.

largest farms,³⁰ which are a far cry from the idea of an idyllic small farm where animals are free to graze, forage, and explore.

The existing legislation largely ignores that animals are sentient beings capable of feeling a wide range of emotions and suffering – a principle acknowledged by the EU's primary law in Article 13 of the Treaty on the Functioning of the European Union. Despite this recognition, EU law allows cruel practices that inherently cause animals suffering and impose very low standards for their keeping. As a result, animals are treated as mere production units, and very little regard is paid to their welfare, as the interests of the industry is almost always prioritised.

The reason behind such tremendous animal suffering lies in the massive numbers of animals kept; the greater the number, the less space, care, and quality of life is provided to an individual animal. Thus, reducing the number of animals farmed will spare animals unnecessary suffering, while also alleviating the strain we put on our planet. Decreasing the production and consumption of animal products and shifting toward plant-based diets is the most welfare-friendly and ethical option, as animals would not need to be subjected to cruel selective breeding practices that aim to increase their growth or milk or egg production at the cost of their own health, or kept in inhumane conditions to serve in systems which completely disregard their autonomy.





Guiding

PRINCIPLES

31 European Commission, Staff Working Document Drivers of food security, SWD(2023) 4 final

When a diet shift is discussed at the EU level, there are two recurring arguments against: that this change needs to be consumer-led, and that we cannot afford to make our food system more sustainable. But these are a false dichotomy.

Consumer choices are determined largely by the food environment consumers find themselves in.

Surveys show that the deciding factor for consumers when buying groceries is the price and availability of products. Moreover, due to the food system being non-transparent, consumers have little knowledge of how the food system impacts the environment, human health, or animal welfare, with only a small percentage of them being aware of what practices are routinely involved in factory farming. While a portion of customers go above and beyond to become informed and buy sustainable and ethical foods, this cannot be reasonably expected from the majority of the population, and the shift in consumer behaviour will not happen on its own. The food environment must enable consumers to make better choices by increasing awareness and by making healthy, nutritious and sustainable foods affordable and easily available. If public money continues to flow into supporting cheap meat and dairy, public demand for these products will remain high.

If we are not willing to pay the cost of food system transformation, we will pay a much higher cost of inaction

The number one argument against any progressive change in environmental and animal protection is the cost of such measures. But this tunnel vision prevents us from seeing long-term consequences of business-as-usual. Yes, any transformation of our food system will have a price tag. But should we continue on our current path, the price will be higher. The same goes for food security, which is not threatened by the necessary change – it is threatened by inaction. Our current food system has shown how easily it can be shaken by societal and environmental challenges. The only way to ensure food security and prevent extremely high costs lies not in doing nothing or, in the worst case, even scrapping the current green rules. It lies in changing our food system to make it resilient in the long-term.³¹

Policies promoting

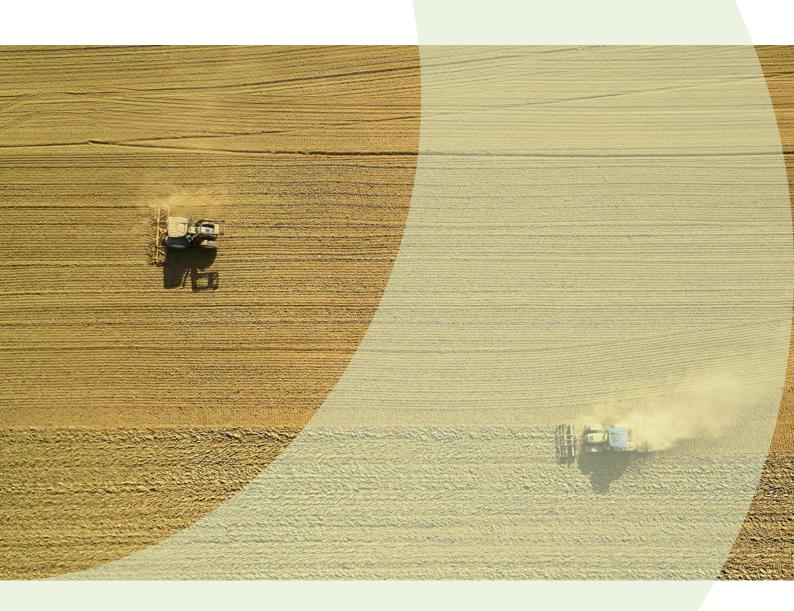
A DIET SHIFT

POLICY AREA	RATIONALE	CONCRETE MEASURES
Tackling agricultural subsidies	The Common Agricultural Policy (CAP) is the main tool of keeping the damaging industrial animal agriculture afloat in the EU, allocating most of its fund towards unsustainable production. The CAP funds, which represent a third of the EU's overall budget, should be used to support sustainable practices which ensure food production within planetary boundaries, not farming systems that ultimately threaten food security through wide-scale damage done to our environment.	 Capping CAP funds to ensure a fairer distribution of public money away from huge agricultural holdings towards smaller farmers Shifting support away from climate-damaging sectors, such as meat and dairy industries, and towards plant-based production instead Increase incentives for the farmers to engage in nature-friendly practices, among them organic farming Effectively utilizing EU funds to allow progressive structural changes in animal farming towards high animal welfare systems
Facilitating the uptake of plant-based diets	For consumers to increase their demand for plant-based products, these need to be readily available and affordable. The current food system does not favour plant-based proteins and combined with the lower awareness of consumers on the impacts of switching to more plant-rich diets, the uptake of plant-based proteins cannot fulfill its potential.	 Adopting an EU-wide action plan for plant-based foods, going by the Danish example. This should follow the objective of strengthening the plant- based value chain, boosting sales of plant- based products, supporting research and innovation and increasing consumers' awareness on the positive impact of eating more plant-based diets, as well as educating children and young adults at school. Increasing public procurement of plant- based foods (e.g. in public canteens) at both the EU and national level Supporting the distribution of plant-based milk alternatives to schools through the EU School Scheme for vegetables, fruits and milk At the Member State level, taxing plant-based alternatives at a lower rate than their animal-based counterparts to increase their competitiveness
Improving animal welfare	Cheap animal products became a staple of our diets, but this is enabled by the industrialisation of animal farming and by keeping animals in unsuitable conditions, which drives the input costs down. High animal welfare is a prerequisite for a sustainable food system, and sustainability cannot be achieved with factory farming controlling the food production. For that reason, the conditions for animals on farms, during transport and at slaughter need to be significantly improved.	 Modernizing the animal welfare legislation based on scientific opinions provided by EFSA Phasing out cruel practices, such as cage farming, keeping animals in high stocking densities, cruel selective breeding for fast growth and excessive milk and egg production, routine mutilations, force feeding, long-haul animal transport and painful stunning methods Implementing welfare- friendly practices into law, such as mandatory access outside and environmental enrichment Introducing an EU-wide mandatory labelling based on the method of production to empower the consumers and enable them to make more informed purchases.

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The European Institute for Animal Law & Policy

ACHIEVING BETTER TREATMENT FOR ANIMALS



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