

BREAKING FREE

EUROPE'S ANIMAL WELFARE CRISES AND THE BRIGHTER FUTURE WITHIN REACH



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EC register for interest representatives:
Identification number 06798511314-27
BCE identification number: 0415.814.848
RPM Tribunal de l'entreprise francophone de Bruxelles

Published: May 2024

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Acknowledgements: With thanks to the following colleagues for their input and feedback: Caroline Heinzel (EEB), Sara Johansson (EEB), Mathieu Mal (EEB), Sergiy Moroz (EEB), Luc Powell (EEB), Christian Schaible (EEB) and Olga Kikou (EIALP).

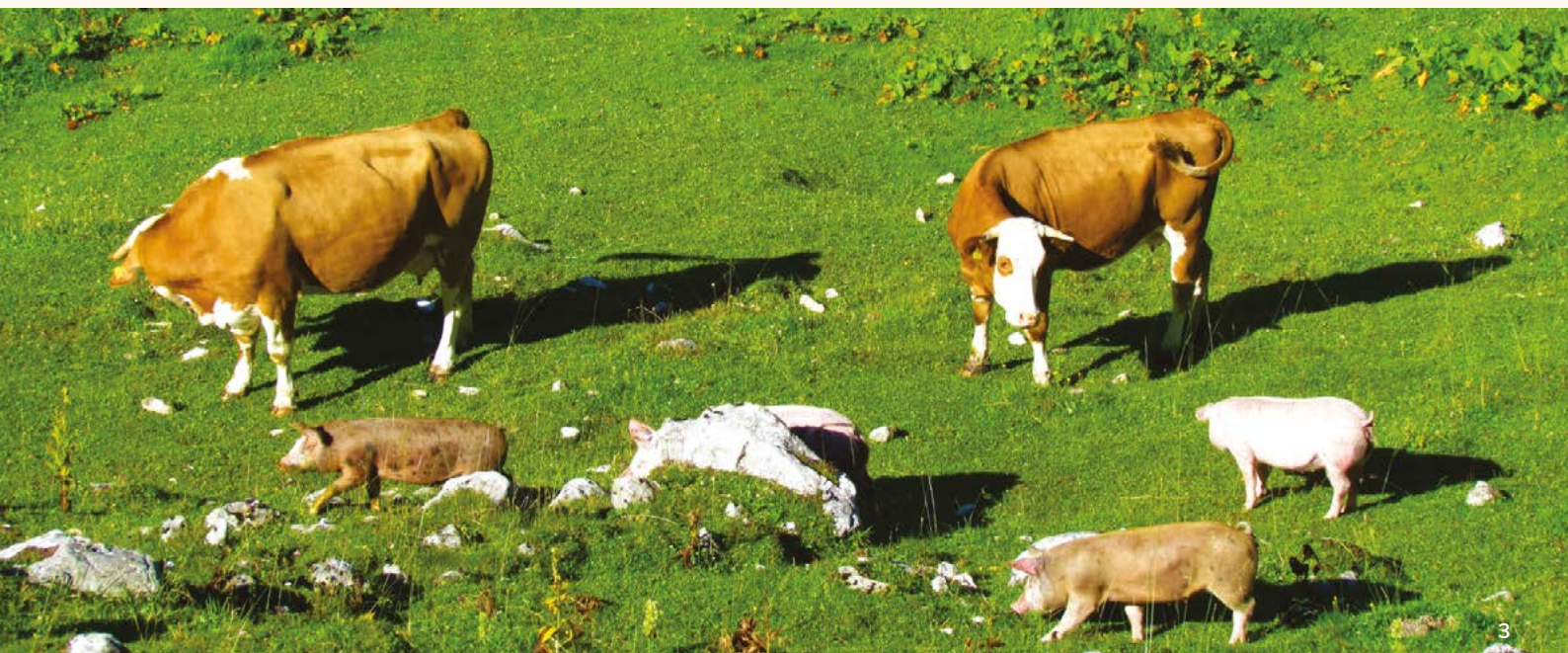
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ANIMAL WELFARE

AS A CORNERSTONE OF

SUSTAINABLE FOOD SYSTEMS



The link between animal welfare and the wellbeing of our environment is becoming ever more widely accepted and recognised. From greenhouse gas (GHG) emissions to water pollution and the degradation of vital soils, current levels of intensive animal rearing - an industry defined by extreme and widespread suffering - sits at the root of multiple threats to our planet and our health.



In order to shape a future defined by a stable climate, resilient farming, food security and healthy ecosystems (and the multiple social benefits these bring), we must first achieve true sustainability of our food systems. For that, we must improve the wellbeing of animals raised in Europe's farming system.

Box 1. The Five Freedoms and the Five Domains of Animal Welfare

'Animal welfare' is not an abstract term. Indeed, it has been the subject of decades of rigorous academic research. So how can animal welfare be defined? Below, the key elements of the frameworks most commonly used to define the 'ideal state' that should be strived for in order to achieve true animal welfare. Both should serve as a guiding point of reference for EU policymakers in ensuring animal welfare is achieved.

THE FIVE FREEDOMS

FAWC 1979, 1993

Freedom from
HUNGER AND THIRST

Freedom from
DISCOMFORT

Freedom from
PAIN, INJURY AND DISEASE

Freedom to
EXPRESS NORMAL BEHAVIOUR

Freedom from
FEAR AND DISTRESS

THE FIVE DOMAINS

Mellor et al. 1994, 2015, 2020

1
Nutrition

2
Physical
Environment

3
Health

4
Behavioural
Interactions

Mental
State

Welfare



To improve the inadequate animal welfare standards in Europe, we must first address the sheer number of animals that are intensively farmed within the prevailing model. Indeed, although it is sometimes pointed out that certain practices which increase animal welfare have higher environmental externalities, it is important to note that reducing overall animal numbers is the key to overcoming this apparent trade-off.

Our current food systems are structurally unsustainable, falling short on all dimensions of sustainability. The European Environment Agency (EEA) recently published its first [*European Climate Risk Assessment*](#) (EUCRA).¹ The report outlined five “clusters” demanding urgent attention, including ‘ecosystems’ and ‘food’. Its findings offer a stark warning that Europe is currently not on track to meet its climate targets and is woefully underprepared for the consequences. Among its recommendations is the clear call for a transition to sustainable food systems - a goal only achievable with a reconceptualisation of animals’ role in farming and a reduction in overall animal numbers.

The EU’s production of animal-based products exceeds dietary needs, with EU citizens consuming [*more than twice*](#) the amount of meat recommended by health authorities.² Even with consumption rates well over what is required or recommended, the EU farming sector produces more than is consumed domestically.

EU production of pork, dairy, poultry and beef exceeds domestic consumption by [*16%, 14%, 8% and 4% respectively*](#).³ Moreover, maintaining this overproduction entails a significant, and inherently unsustainable, dependency on countries beyond the EU. One of the most notable examples of this dependency is the EU’s massive imports of soy, the externally-sourced agricultural product driving the most deforestation abroad (31% of the tropical deforestation embedded in EU agricultural imports). Although industrialised animal rearing in the EU eats up [*around half*](#) of EU cereals, the EU imports more than 20% of the plant proteins used for animal feed.⁴

This industrialised production system is centred on a conceptualisation of animals as commodities for production, rather than sentient beings. As such, cost-effectiveness and profit-maximisation considerations drive intensification centred around high stocking densities - simply put, squeezing ever-more animals into ever less space. Aside from causing extreme and needless suffering, current levels of industrialised animal production are fuelling GHG emissions and pollution of water, soil and air, whilst also posing growing threats to human health and therefore placing increased burdens on public finances.



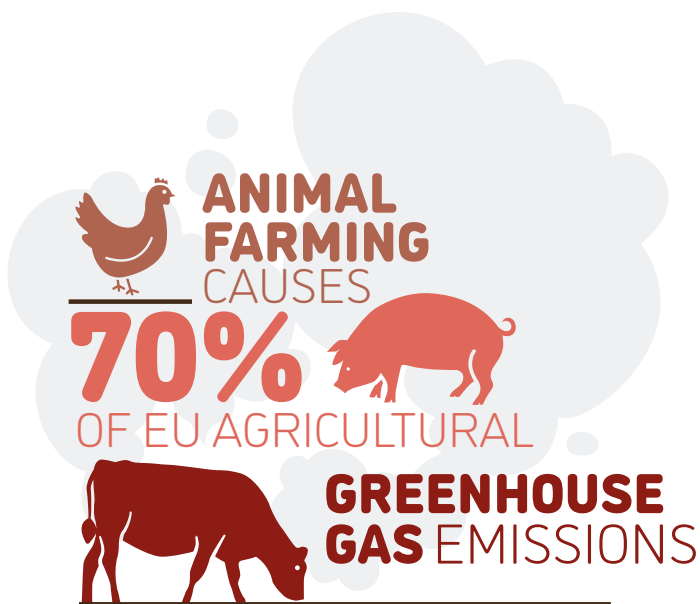
CLIMATE CHANGE

Animal farming causes [70% of EU agricultural GHG emissions](#).⁵ Land use change for the production and processing of feed, along with direct methane emissions from ruminants, are the leading sources of those emissions. Feed is generally the largest energy-consuming activity in livestock systems because the production of animals is inherently inefficient. The feed itself is produced in intensive processes with high uses of fossil fuels, fertilisers and pesticides. On top of feed, a lot of energy is also used for animal housing and manure management, which adds to the inefficiencies of intensive livestock production.

Two-thirds of the EU's agricultural land is used for activities related to intensive animal production, particularly for the production of feed. Future-proofing the food and agricultural sector from the rapidly worsening effects of climate breakdown can only be achieved by raising fewer animals with higher welfare standards. This has been emphasised by a recent academic [study](#) showing that, in order for the EU to meet the urgent targets set out in the Paris Agreement, emissions from livestock production in particular must fall rapidly.⁶

BIODIVERSITY LOSS

The prevailing factory farming model in Europe is not only harmful to the animals processed through this system. Indeed, this unsustainable industry is at the root of a growing crisis for ecosystems - in Europe and beyond. Plummeting biodiversity across Europe is widely attributed to the mechanised, productivist model governing today's food systems, in which the rearing of farmed animals plays a major part. According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), land use change and unsustainable land management - mostly driven by the intensive production of plant protein for animal consumption - are the [main drivers](#) of biodiversity loss in Europe.⁷



WATER AND SOIL POLLUTION

The fact that Europe is facing a growing crisis around this vital shared resource is no secret. What is less discussed at high political levels is the true source of these overlapping crises. The currently unsustainable numbers of animals raised in intensive settings across Europe is fuelling a rapidly growing crisis around Europe's water. This crisis is two-fold: water scarcity, and water pollution. The intensive rearing of animals is a key driver of both of these problems.

The estimated cost of water pollution from the production of animal-sourced food production in the EU reached **€25 billion** in 2022.⁸ Most of that figure is made up by the costs related to the eutrophication of European natural waters (in short, water bodies suffering an extreme deprivation of oxygen that ultimately kills aquatic ecosystems) caused by excessive nutrient pollution (nitrogen and phosphorus). Indeed, high concentrations of nutrient waste from animal husbandry are a leading cause of **extensive aquatic 'dead zones'**.⁹ The cause of this devastating phenomenon has been widely attributed to **rapidly expanding**¹⁰ intensive animal rearing, an industry that accounts

for **81% of agricultural nitrogen in aquatic environments**¹¹, but whose impacts on such ecology remain poorly regulated. Indeed, while dedicated legislation such as the Water Framework Directive and the Nitrates Directives is in place, it remains poorly implemented and inadequately enforced.

THE ESTIMATED COST OF WATER POLLUTION



FROM
ANIMAL-SOURCED FOOD
PRODUCTION REACHED
€25 billion
IN 2022 IN THE EU



AIR POLLUTION

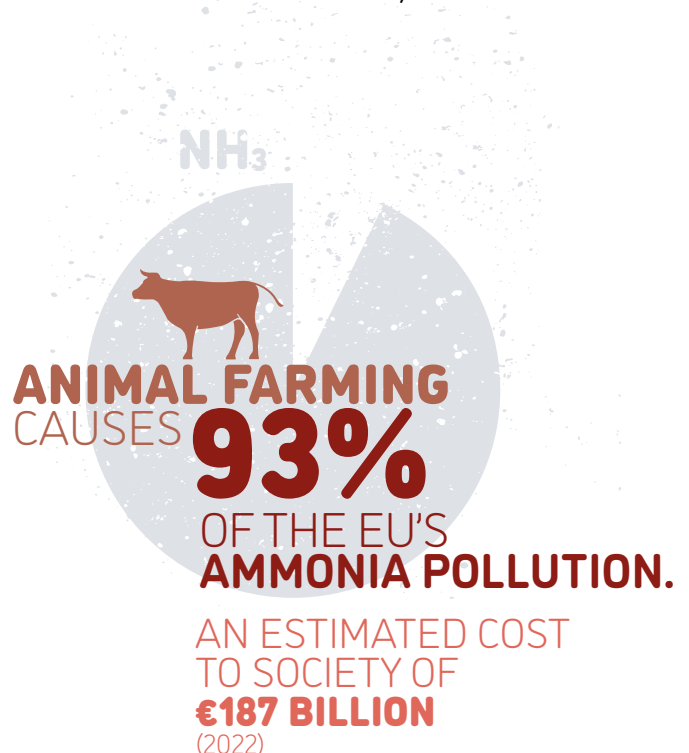
The social cost of these dead zones should not be underestimated. With many local communities reliant on water-related tourism and small-scale fishing to sustain livelihoods, these human-made crises can lead to businesses' financial ruin - and the many negative multiplier effects that brings to local economies.

In addition, nitrate pollution from intensive animal farms poses real and growing risks to the quality of our drinking water - and by extension, our health. A recent study showed that, without action, the nutrient pollution crisis could leave over 3 billion people globally facing water scarcity by 2050.¹²

While water pollution has long been observed and assessed across Europe, our soils have been relatively ignored. However, it is becoming increasingly apparent that current agricultural practices and intensive animal rearing and its byproducts are key drivers of Europe's extensive soil degradation. For example, the current production of feed through conventional agricultural methods can expose soil and its biodiversity to pesticide pollution, increase the risk of soil erosion through intensive tillage or as a result of land use change, and lead to overall soil biodiversity loss.

Moreover, the currently excessive application of animal manure on soil leads to pollution by heavy metals and antibiotics. Higher levels of heavy metals such as zinc and copper have been found near areas with poor animal welfare standards under intensive animal farming systems.¹³ Manure was responsible for 77% and 78% of zinc and copper levels in soil, respectively. Lowering these concentrations is key for the achievement of the zero-pollution ambition by 2050 reiterated in the EU soil strategy for 2030.¹⁴

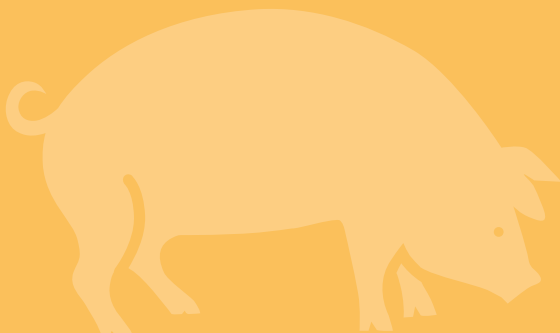
Animal farming is a leading source of air pollution, the external impact of which had an estimated cost to society of €187 billion in 2022 alone.¹⁵ Animal farming is responsible for 93% of the EU's ammonia pollution, primarily from ineffective manure management in high stocking density farming systems and from the excess use of synthetic nitrogen fertilisers.¹⁶ It poses the biggest challenge¹⁷ in the reduction of key air pollutants across the bloc where at least 10 Member States were shown as having to significantly reduce their ammonia emissions from animal farming to fulfil their National Emission Reduction commitments for 2020-2029. Ammonia is extremely harmful to human health, with causal links to lung and cardiovascular diseases, heart attacks and cancer.¹⁸ Being air-borne, it can travel over significant distances, creating health hazards also in urban areas, especially those close to farmland under intensive animal production. Using housing techniques that improve animal welfare – such as straw bedding for natural insulation in pig farming¹⁹ – and extensive farming systems²⁰, has been proven to reduce ammonia emissions considerably.



EU ANIMAL WELFARE LEGISLATION:

WHAT WE HAVE

The EU started establishing legislation to regulate animal welfare in 1974 (instituting the requirement to stun animals before slaughter) and introduced some species-specific legislation in the 1980s. However, many of these measures were aimed at market harmonisation and it was only in the late 1990s (Treaty of Amsterdam) that legislation to comprehensively address animal welfare in its own right was adopted in earnest, including through the recognition of animals as sentient beings. The EU thus enshrined animal sentience as a constitutional principle.



Currently, the bulk of [EU rules on animal welfare](#)²¹ is comprised of seven pieces of legislation (two Regulations and five Directives), covering the protection of animals kept for farming purposes, the protection of animals during transport and at slaughter, and Directives setting out minimum standards for the protection of four specific species (laying hens, broilers, pigs and calves), all of them published between 1998 and 2009.

REVISING EXISTING LEGISLATION: A KEY ACTION UNDER THE FARM TO FORK STRATEGY

In 2020, as a cornerstone of the ‘EU Green Deal’ (EGD), the European Commission adopted its Farm to Fork (F2F) Strategy to achieve a “fair, healthy and environmentally sustainable

food system”, in which animal welfare was identified as a key area of action. Accordingly, a comprehensive revision of EU animal welfare was announced. The conclusions of the animal welfare legislation [Fitness Check](#) carried out in preparation for the revision proposal and published in October 2022, clearly indicated that current EU animal welfare legislation is no longer fit for purpose.²² Outdated and unscientific, this legislation reflects an understanding of animals and their health and well-being which many scientists and the [vast majority of EU citizens](#) simply do not agree with.²³ Indeed, societal expectations on animal welfare, as the Commission clearly recognised, are no longer limited to the need to minimise animal suffering, demanding instead that animals are enabled to live dignified lives, free to express their natural inclinations and behaviours (see Box 1 above).

Box 2. Fitness Check of the EU Animal Welfare legislation

The conclusions of the European Commission’s ‘Fitness Check’ of the EU Animal Welfare legislation clearly indicated that current rules are “not fully fit to meet current and future needs” and that “there is still a sub-optimal level of welfare of animals in the EU”.

Key issues identified:

- EU animal welfare legislation is outdated and is not up to pace with developments in national level legislation, citizens’ expectations and scientific evidence
- Animals not covered by species-specific measures are not sufficiently protected
- Animal categories covered by targeted legislation do enjoy better welfare, but harmful practices restricting their movements and hampering their welfare are still common
- Differences in levels of ambition, application and enforcement in Member States mean there is not a uniform level of animal welfare protection across the Union
- Enforcement of current rules is lacking
- There are no robust indicators or a coherent monitoring framework to ensure legislation is duly kept effective and relevant
- There is a clear scope for more leverage in the EU Common Agricultural Policy (CAP) and Common Trade Policy to support EU animal welfare objectives

A STEP FURTHER: ENDING THE CAGE AGE

On top of the revision enshrined in the Farm to Fork Action Plan, in 2021 the European Commission committed to publishing a legislative proposal that would implement the requests of the European Citizens' Initiative (ECI) '[End the Cage Age](#)'.²⁴ The successful ECI carried the voices of 1.4 million EU citizens from all 27 Member States and was the first of the only 10 successful ECIs out of the 133 initiated since 2012 to secure a clear commitment by the Commission (incidentally, over half of these 10 ECIs related directly to animal welfare). As such, the Commission [set out plans](#) to publish a legislative proposal by the end of 2023, together with the wider revision of the EU animal welfare legislation, to phase out the use of cages for many farm animals by 2027 (the initiative particularly referred to hens, sows, calves, rabbits, ducks, geese and other farmed animals).²⁵

Failing to ban the use of cages in animal farming is a missed opportunity to alleviate the suffering of billions of animals of course, but it is also politically shameful and self-defeating. At a time of growing euroscepticism, disregarding the express will of citizens only risks worsening people's alienation from EU institutions.

THE EUROPEAN
CITIZENS' INITIATIVE (ECI)
'END THE CAGE AGE'



THE CURRENT POLITICAL CONTEXT

To the dismay of millions of EU citizens, the Commission missed its own deadline on introducing a proposed ban on cages in farming, while also failing to deliver proposals for the revision of the current legislation setting standards for on-farm animal welfare and the welfare of animals at slaughter. Ultimately, the only proposal the Commission published was a limited revision of the legislation of animal welfare during transport.

This dire drop in ambition and failure to deliver is common to many other urgent measures that had been announced under the guiding framework of the Farm to Fork Strategy as a coordinated and comprehensive pathway to sustainable food systems in the EU.

The EU food system has no possibility of becoming socially or environmentally sustainable without concretely improving the welfare of animals involved in it and without changes in food consumption patterns. For our food systems to be truly sustainable, we need to address the current levels of overconsumption of animal products. In addition, for people to trust what they consume, measures to ensure transparency must be introduced. Mandatory animal welfare labelling can be an important auxiliary measure in supporting informed decision-making and ensuring consumers have access to the information that can enable them to choose based on the preferences they have [clearly expressed](#).²⁶

However, the opposition faced by the hugely promising Farm to Fork Strategy since its publication intensified dramatically from 2022 onwards. This opposition was driven by actors with a vested interest in maintaining the status quo, who instrumentalised geopolitical crises to launch a scaremongering campaign centred on a misrepresentation of food security. This campaign, heavily powered by mis- and disinformation, ultimately derailed the political debate and process by fuelling fear and confusion among citizens, businesses and politicians alike. This pushback centres on a narrative artificially pitching improved environmental sustainability against farming and food security and has targeted measures under the EU Green Deal and its ensuing initiatives, with the Farm to Fork Strategy suffering the worst blows. As political and institutional actors have shifted into campaign mode ahead of the EU elections, they have become increasingly restless and concerned with gathering political support to secure re-election.

Some of the most powerful agri-food lobbies have become even more visible in the political arena in this context, both at the EU and the [global](#) level, as shown by a spike in the number of delegates from Big Meat and Dairy industries at the most recent COP summit.²⁷

At the European level, the involvement of actors from this private sector in the policymaking process has become hard to ignore. But it is not only in the corridors of power that these private interests are influencing hearts and minds; it is also in the digital space. A recent [report](#)²⁸ by Changing Markets Foundation found that one area where this industry is seeking to influence consumers around meat consumption is through [social media](#).²⁹



REVISING THE ANIMAL WELFARE LEGISLATION: WHAT DO WE NEED?

WELFARE OF ANIMALS ON FARM

While having the most advanced system of on-farm animal welfare legislation worldwide, current EU legislation is poorly designed, made up of vague and weak provisions, and very badly enforced. As a result, billions of farmed animals continue to suffer needlessly across the Union. To improve the health and well-being of animals in EU farms, current legislation should be structurally revised.



- 1. Reduce stocking densities on farms:** Most animal welfare and environmental issues in animal rearing stem from legislation permitting high animal densities. Animals are forced to live in unnaturally large groups without stable hierarchies. This leads to intense trauma and distress. This can lead to damaging behaviour as animals must compete for access to limited space and resources such as feeding space, drinkers, and preferred lying areas. In some cases this can lead to cannibalism. Aside from being environmentally destructive, high stocking densities promote the spread of zoonotic diseases and antimicrobial resistance, as antibiotics are used indiscriminately to compensate for poor welfare. Animal welfare cannot be achieved in intensive contexts, and legislation should acknowledge that, supporting a transition away from fully-indoor farming systems and promoting instead systems in which animals are regularly allowed outside.
- 2. Phase out individual cages:** The widespread use of cages in the EU prevents millions of animals from moving freely and expressing natural behaviours. By signing onto the 'End the Cage Age' ECI, around 1.4 million EU citizens clearly demanded EU farming move away from the use of cages.
- 3. Introduce species-specific standards for all farmed animals:** The Fitness Check clearly indicated that farm animals whose welfare is not protected by species-specific legislation are exposed to higher levels of suffering than those that are. EU legislation must develop to ensure it includes standards that accurately consider the needs of individual species, based on the most recent and reliable scientific evidence.
- 4. Ban routine mutilations:** Painful mutilations are routinely carried out without anaesthetics or analgesics as a quick-fix to mitigate unwanted behaviour from certain species. However, most of these behaviours result from unsuitable group compositions and inappropriate management or farming environments. All routine mutilation should be banned, and legislation should instead require farmers to ensure animals are provided with the environments and conditions that allow them to fully express their natural behaviours. Mutilations due to health and welfare reasons should be exceptional and exclusively carried out by qualified veterinarians.
- 5. Ban force-feeding:** The inhumane practice of force-feeding, already banned in many EU countries, is still allowed in some for the production of foie gras. In these production processes, ducks and geese are confined in small cages and force-fed through tubes until their livers are enlarged to several times their natural size, leading to extremely high rates of mortality. The practice should be banned across the Union.



WELFARE OF ANIMALS DURING TRANSPORT

The EU is the largest exporter of live animals in the world, with evidence consistently showing existing legislation fails to adequately prevent animal suffering during transport within the EU, but especially on journeys to third countries. During these mostly excessively long journeys, animals are routinely exposed to extreme temperatures and overcrowding, often leading to injuries and death.³⁰

Of the comprehensive revision announced in the Farm to Fork Action Plan, the revision of EU legislation on animal welfare during transport was the only one that was published. The European Commission's proposal mostly introduced technical adjustments, without effectively overhauling the status quo.

- 1. Reduce transport times:** By introducing absolute time limits to the transport of live animals, the European Commission proposal represents an improvement. However, the time limit of twenty-one hour stretches with a 24-hour break in between is still too long, and can easily be circumvented by using the much more lenient limits to journey for non-slaughter purposes. Good animal welfare cannot be assured on journeys that take days - or even weeks.
- 2. Ban on transport of unweaned and pregnant animals:** Unweaned and pregnant animals are particularly vulnerable. Due to difficulty of feeding during transport and the conditions faced during transport, unweaned and pregnant animals are routinely exposed to extreme stress, hunger, injuries, premature births and death. The proposed revision does not introduce sufficient safeguards against such pain suffered by these animals.
- 3. Ban the export of live animals to third countries:** The EU exports millions of animals every year to third countries (around 4.5 million in 2019), including to export destinations that have extremely low animal welfare standards. During these journeys, animals are exposed to extreme temperatures and severe suffering. Only a complete ban on live animal transport to third countries through a transition to the exclusive transport of meat, carcasses and genetic material could effectively put an end to this avoidable suffering. In the absence of such a ban, the transport of live animals should be regulated so as to set clear limits to sea transport and guarantee the presence of certified veterinarians for every voyage.



WELFARE OF ANIMALS AT SLAUGHTER

Around 9 billion land animals and between 500 million and 1.3 billion farmed fish are slaughtered every year in the EU. Cruel and painful stunning methods and practices that cause animals considerable stress before their deaths are still allowed in the EU, despite abundant scientific evidence advising against them. Harmful and avoidable practices such as the culling of one-day old chicks as a by-product of the egg industry, the use of electric prods, paddles and clappers to force animals along slaughterhouse raceways and other cruel and ineffective stunning methods should be phased out completely.

ANIMAL WELFARE LABELLING

EU citizens have made it very clear that they expect institutions to improve the degree of animal welfare in European farming and that they are willing to pay more for high-welfare products. However, consistent, reliable information on the welfare of animals involved in food production is not sufficiently available, nor are high animal welfare products sufficiently available on the market.

Food sustainability labelling can only have an auxiliary function within a more systemic and integrated policy approach to ensuring a just transition to sustainable consumption within a wider socially and environmentally sustainable food system. However, it can have a positive incentivising function for industry, as well as meeting the transparency requirements consumers have come to expect.



CONCLUSIONS

As has been widely documented and acknowledged by multiple institutions, including the European Commission itself, the EU's animal welfare legislation is outdated and unscientific, allowing for the continued and needless suffering of billions of animals every year.

The scientific evidence, technology and democratic support needed to change this are all strong. What has been lacking so far is the political will needed for public authorities to stand by their commitments and fulfil their duties to citizens, in terms of public health, environmental and climate action, and animal welfare itself.

Improving animal welfare and reducing the overall number of farmed animals have the potential to help reverse plummeting biodiversity significantly caused by the intensive overproduction of animal protein. It also presents a unique opportunity to drastically bring down harmful emissions fuelling climate change, mitigate the destructive impact of intensive animal farming systems responsible for the pollution of water, air and soils, and deliver key public health benefits.

The next European Commission must urgently move ahead with the revision of the EU animal welfare legislation, ensuring it aligns with overwhelming scientific evidence, therefore putting an end to the plight of billions of farmed animals across the Union and ensuring the future of the EU's farming system as a key element of the transition to sustainable food systems for people, nature and climate.



REFERENCES

- ¹ European Environment Agency. (2024). 'European Climate Risk Assessment'. Report. <https://www.eea.europa.eu/publications/european-climate-risk-assessment>
- ² <https://risefoundation.eu/what-is-the-safe-operating-space-for-eu-livestock/>
- ³ Greenpeace. (2019). 'Feeding the Problem: the dangerous intensification of animal farming in Europe'. Report. <https://www.greenpeace.org/eu-unit/issues/nature-food/1803/feeding-problem-dangerous-intensification-animal-farming/>
- ⁴ European Commission. Cereals, oilseeds, protein crops and rice: Protection of EU farmers and the agricultural sector through policy on market intervention, trade measures, legislation, and monitoring the market. European Commission. https://agriculture.ec.europa.eu/farming/crop-productions-and-plant-based-products/cereals_en
- ⁵ European Commission. (2020). 'Farm to Fork strategy for a fair, healthy and environmentally-friendly food system'. European Union. https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en
- ⁶ Harwatt, H. et al. (2024). Options for a Paris-Compliant Livestock Sector: Timeframes, targets and trajectories for livestock sector emissions from a survey of climate. Harvard University. <https://animal.law.harvard.edu/wp-content/uploads/Paris-compliant-livestock-report.pdf>
- ⁷ IPBES. (2019). 'Global Assessment Report on Biodiversity and Ecosystem Services'. Report. <https://www.ipbes.net/global-assessment>
- ⁸ Eurogroup for Animals. (2023). 'External Costs of Animal Sourced Food in the EU'. Impact Institute. Report. <https://www.eurogroupforanimals.org/library/external-costs-animal-sourced-foods-eu>
- ⁹ European Parliament. (2022). 'PETI Fact-finding visit to Mar Menor, Spain'. PETI Committee Briefing. <https://www.europarl.europa.eu/cmsdata/245205/BRIEFING.pdf>
- ¹⁰ Gallego, J.L. (2024). 'El ruinoso negocio de producir cerdos envenenando los acuíferos'. El Confidencial. https://blogs.elconfidencial.com/medioambiente/ecogallego/2024-03-10/macroganjas-acuiferos-nitratos-ecologistas_3845099/
- ¹¹ Centre for Ecology & Hydrology. (2015). 'Nitrogen on the Table: The influence of food choices on nitrogen emissions and the European environment'. Report commissioned by the the Task Force on Reactive Nitrogen of the UNECE Convention on Long Range Transboundary Air Pollution. https://www.pbl.nl/sites/default/files/downloads/Nitrogen_on_the_Table_Report_WEB_1.pdf
- ¹² Hart, R. (2024). 'Billions Facing Clean Water Crisis By 2050, Scientists Warn — Here's Why', Forbes. <https://www.forbes.com/sites/roberthart/2024/02/06/billions-facing-clean-water-crisis-by-2050-scientists-warn---heres-why/>
- ¹³ European Environment Agency. (2023). 'Soil pollution and ecosystems'. Zero pollution monitoring assessment. Web report. <https://www.eea.europa.eu/publications/zero-pollution/ecosystems/soil-pollution#:~:text=Levels%20of%20copper%20and%20zinc,issues%2C%20such%20as%20air%20pollution>
- ¹⁴ European Commission. (2021). Soil strategy for 2030: Reaping the benefits of healthy soils for people, food, nature and climate. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0699>
- ¹⁵ Eurogroup for Animals. (2023). 'External Costs of Animal Sourced Food in the EU'. Impact Institute. Report. <https://www.eurogroupforanimals.org/library/external-costs-animal-sourced-foods-eu>
- ¹⁶ Greenpeace. (2023). 'EU gives factory farms a free pass to pollute'. Press release. <https://www.greenpeace.org/eu-unit/issues/nature-food/46847/eu-gives-factory-farms-a-free-pass-to-pollute/#:~:text=EU%20agricultural%20production%2C%20and%20animal,emissions%2C%20mostly%20from%20cattle>
- ¹⁷ European Environment Agency. (2023). 'Emissions of key air pollutants continue to decline across the EU, reducing ammonia poses biggest challenge'. Press release. <https://www.eea.europa.eu/en/newsroom/news/emissions-of-key-air-pollutants>
- ¹⁸ Arbinolo, R. (2019). Fields of Pollution: Agriculture's Surprising Impact on Urban Air Quality'. European Environmental Bureau. <https://meta.eeb.org/2019/10/10/fields-of-pollution-agricultures-surprising-impact-on-urban-air-quality/#:~:text=Particulate%20matter%20can%20provoke%20lung,polluted%20air%20in%20urban%20areas>
- ¹⁹ Kavolelis, B. (2006). 'Impact of Animal Housing Systems on Ammonia Emission Rates'. Polish J. of Environ. Stud. Vol. 15, No. 5 (2006), 739-745. <https://www.pjoes.com/Impact-of-Animal-Housing-Systems-on-Ammonia-Emission-Rates.87926.0.2.html>
- ²⁰ United Nations Economic Commission for Europe. 'How to define extensive livestock systems in relation to emissions to the environment'. Informative document for 61st Working Group on Strategies and Review. United Nations. https://unece.org/sites/default/files/2023-06/TFRN%20Extensive%20livestock_definition%20for%20VGSR%20%282023-06-26%29.pdf
- ²¹ European Commission. Animal welfare. Animal welfare proposals adopted by the Commission on 7 December 2023. https://food.ec.europa.eu/animals/animal-welfare_en#Background
- ²² European Commission. (2022). Commission Staff Working document. Executive Summary of the Fitness Check. EU Animal Welfare legislation. https://food.ec.europa.eu/document/download/74ba158a-d778-4b96-885e-35a1e550a646_en?file-name=aw_eval_revision_swd_2022-329_en.pdf
- ²³ European Commission. Attitudes of Europeans towards animal welfare. <https://europa.eu/eurobarometer/surveys/detail/2996>
- ²⁴ Compassion in World Farming. (2024). 'LEGAL ACTION LAUNCHED'. End the Cage Age. Website. <https://www.endthecageage.eu/en/>
- ²⁵ European Commission. (2021). 'European Citizens' Initiative: Commission to propose phasing out of cages for farm animals'. Press release 21 June 2021. https://ec.europa.eu/commission/presscorner/detail/en/ip_21_3297
- ²⁶ BEUC. (2024). 'Farm Animal Welfare: What Consumers Want: A survey of Europeans' understanding and expectations'. Report. https://www.beuc.eu/sites/default/files/publications/BEUC-X-2024-016_Farm_animal_welfare_what_consumers_want_survey.pdf
- ²⁷ Sherrington, R. et al. (2023). 'Big Meat and Dairy Delegates Triple at COP28:'. DeSmog. <https://www.desmog.com/2023/12/08/big-meat-dairy-delegates-triple-cop28/>
- ²⁸ Changing Markets Foundation. (2023). 'Truth, Lies and Culture Wars: Social listening analysis of meat and dairy persuasion narratives'. Report. <https://changingmarkets.org/report/truth-lies-and-culture-wars-social-listening-analysis-of-meat-and-dairy-persuasion-narratives/>
- ²⁹ European Environmental Bureau. (2024). 'Navigating Misinformation: The Raw Truth About Big Meat', META. <https://meta.eeb.org/2024/01/18/navigating-misinformation-the-raw-truth-about-big-meat/>
- ³⁰ Stevenson, P. and Blattner, S. (2023). 'A data dump of suffering: The EU's long-distance trade in farm animals exposed'. Compassion in World Farming and Eurogroup for Animals. Report. <https://www.ciwf.org/resources/reports-position-papers-briefings/a-data-dump-of-eu-transport-suffering-exposed/>



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