

Peak Poultry – briefing for policy makers

Why consumption and production of chicken in the UK must rapidly peak and decline – for the sake of the climate, nature, and human health



THE CHALLENGE

Chicken is the UK's most popular animal protein, accounting for almost half of all meat consumed. In total, the UK slaughters around a billion chickens each year – most are broilers for consumption, and 95% are members of fast-growing breeds, intensively reared in indoor units. While chicken can be a healthy part of a sustainable diet, and poultry can play a beneficial role in an agroecological farming system, such scale and intensity of production poses ecological challenges, while also undermining animal welfare and posing threats to human health.

The chicken might be a relatively small bird, but it has a large environmental footprint, primarily associated with the production of feed. The modern broiler requires a diet high in protein with the right balance of amino acids for rapid and corpulent growth. Composite feeds often include animal protein sources, such as fishmeal, with soya providing the most nutritious and commonly used plant protein. Roughly 3 million tonnes of soya are imported into the UK each year, mostly for animal feed, mostly for chickens.

The bulk of this soya is sourced from the Americas, and most of it from areas that are at high risk of environmental degradation. Soya production has contributed to deforestation and land conversion in biologically important areas, such as the Amazon and Cerrado, with rising global demand fuelling expansion into wild habitats. Only 20-30% of the soya imported into the UK is certified sustainable, with regulation and policy failing to ensure adequate oversight of supply chains.

Even if all the soya imported into the UK was sustainably produced, the scale of the UK's overseas land use would still be problematic. Our overseas soya footprint covers an area approaching the size of Wales, the equivalent of a tennis court of soya per person. With UK poultry consumption roughly double the global average, and global demand for grain-fed meat rising sharply globally, there simply isn't enough land available to sustain our dietary trajectory.

The UK, like most nations, has made international commitments related to climate and nature, such as a Nationally Determined Contribution to the Paris Agreement. These commitments cannot be delivered unless the UK addresses the impacts of overseas feed crop production. This will require a shift to more sustainable feed, removing deforestation and land conversion from supply chains, but it will also require a change in the national diet, facilitating a move to agroecological production.

Ahead of COP26, the UK has set into law the target to reduce emissions by 78% by 2035 compared to 1990 levels. But diets and overseas land-use remains a gap, and chicken poses a unique challenge in a UK context. Consumption is rising, and chickens are the primary consumers of both imported and domestic feed crops. Resolving the climate and nature crises, while improving animal welfare and human health, will require that the UK reaches 'peak poultry' as soon as possible, with declines in consumption and production thereafter. This briefing lays out the rationale for such a change, and the solutions that could deliver a fair deal for producers and an agroecological future.

THE EVIDENCE

Chicken is the UK's favourite meat, with per capita consumption rising year-on-year from 30.5 kg per annum in 2000 to 36.3 kg in 2017.ⁱ

Roughly 1 billion chickens are farmed each year in the UK (13 for every adult and child), with roughly 120 million alive at any one time, broilers accounting for 66% of the total.ⁱⁱ Roughly 95% of UK broilers are fast-growing breeds housed in intensive poultry units (IPUs), with the number of IPUs rising in recent years from 1,016 in 2017 to 1,092 in 2020.ⁱⁱⁱ

The UK is the third largest producer of chicken in Europe.^{iv}

The UK is 75% self-sufficient in poultry meat and 85% self-sufficient in eggs, indicating that declines in consumption will be essential if curbs to production are not to result in the offshoring of impact.

The land required overseas to meet the UK's annual demand for soya is 1.7 million hectares, an area approaching the size of Wales. At least 75% of all soya imported into the UK is either embedded in imported meat, eggs and dairy or used for animal feed.^v

Only 27% of soya imports are covered by a deforestation and conversion free standard.^{vi}

65% of the UK's soy is produced in Argentina, Brazil and Paraguay, all of which are high risk countries in terms of deforestation and ecological impact.^{vii}

The Cerrado savannah in Brazil is among the most important and vulnerable areas. Roughly half the Cerrado has been lost to soya production and cattle grazing since the 1960s, with conversion progressing at a faster rate than in the Amazon.^{viii}

The growth in soya production in recent decades has primarily been driven by the demand of soya cake for animal feed, and hence by the growing demand for animal-based products. Two thirds of the value of each bean is in animal feed, relative to one third of value in the oil. However, because the oil and the cake originate from the same bean, there is a mutual and economically convenient dependency between their uses.^{ix}

Roughly 50% of the UK wheat crop is also used as animal feed, with poultry consuming the largest share, accounting for more than 500,000 hectares of UK land use.^x

Globally, livestock consume one third of cereal production and use 40% of all arable land.^{xi}

Global meat consumption is forecast to rise 76% by 2050, including a doubling in the consumption of poultry, a 69% increase in beef and a 42% increase in pork.^{xii}

If the global demand for meat grows as anticipated, it's estimated that agricultural land would have to expand by 280 million hectares by 2030, primarily to provide feed crops such as soy and maize – that would mean expanding across an area the combined size of Germany, Poland, the UK, France, Spain, Belgium, the Netherlands, Ireland, Portugal, Austria, the Czech Republic, Slovakia and Italy.^{xiii}

The average person in the UK or Europe consumes approximately 61kg of soy per year, largely in the form of animal products such as chicken, pork, salmon, cheese, milk and eggs.^{xiv}

Poultry can form part of a healthy and sustainable diet, but an agroecological farming system would require a decline in consumption of at least 50% and a decline in production of at least 30%.^{xv}

THE POLICY CONTEXT

Reaching ‘peak poultry’ will help to deliver several important policy agendas –

- **Climate**

The UK Climate Change Committee has determined that dietary change will be required for the UK to achieve ‘net zero’ by 2050. This will include wasting less food and eating a balanced diet inclusive of less and better meat. In their recommendations to government for the sixth carbon budget, the CCC called for a 20% decrease in meat and dairy consumption by 2030, rising (for meat) to 35-50% by 2050. Crucially, declines will be required in *all* meat types, not only red meat as previously stated. Poultry poses the greatest challenge in this context, as the UK’s most popular animal protein.

The government has enshrined the sixth carbon budget in law, implying a commitment to dietary change, but in comments to the press, the government said: “Following the CCC’s recommended budget level does not mean we are following their specific policy recommendations. Our published analysis is based on the government’s own assumptions and does not, for example, assume the CCC’s change in people’s diet.” The government has not provided further details or explained how they intend to deliver the budget without dietary change.

The UK’s 2020 Nationally Determined Contribution to the Paris Agreement appears to be warmer on the subject, saying: “The UK is committed to delivering a national shift to healthy diets supported by a sustainable food system which contributes towards a reduction in GHG emissions.” The UK Climate Change Committee has stated that a reduction in poultry consumption will be required to deliver a sustainable food system, highlighting feed crop production overseas as a key area of concern.^{xvi}

- **Nature**

The Nationally Determined Contribution also commits the UK to fulfilling its responsibilities under key international agreements pertaining to nature and biodiversity, such as the Convention on Biological Diversity, the Ramsar Convention, and the Leaders’ Pledge for Nature, while also implementing the Convention on Biological Diversity’s vision that by 2050 “biodiversity is valued, conserved, restored and wisely used, maintains ecosystem services, sustains a healthy planet and delivers benefits essential for all people.” The government notes that in addition to benefiting wildlife, adherence to these commitments “will provide significant climate mitigation and adaptation benefits.”

Domestic nature and biodiversity policy is devolved. In England, the 25 Year Environment Plan set out “to support nature’s recovery and restore historical losses”, and a new “strategy for nature” is expected to be published following agreement of global biodiversity targets under the Convention on Biological Diversity in 2022. The Environment Bill is also progressing through Parliament, with new measures to restore and enhance nature, and a clause requiring due diligence in the purchase of forest risk commodities such as soy. While this clause is welcome, it will need to be strengthened if the Bill is to be effective in addressing the impacts of feed crop production, where land conversion and high input use implicate UK poultry in the degradation of biodiversity and nature (see below).^{xvii}

- **Health**

Pesticide use on soya in the Americas has been associated with human health impacts, such as birth defects and higher cancer rates among local populations. Since 1990, for example, Argentinian soya production has quadrupled, and in some regions, the use of herbicides has risen elevenfold. The effects have been studied and are extreme. In rural areas, such as in villages and small towns, the

number of miscarriages and birth defects has increased, and cancer rates are also significantly higher. While 19 percent of deaths in Argentina are caused by cancer, in these areas the rate exceeds 30 percent. If the UK is to meet its international commitments to protecting the health of populations in developing and overseas nations, it will need to address the use of chemical inputs in poultry and livestock feed crop supply chains.^{xviii}

In a domestic context, excess nitrogen in the form of ammonia from intensive poultry units can have adverse impacts on both the natural world and human health. A recent global assessment found the build-up of reactive nitrogen in the environment to pose a significant threat to biodiversity, while the health consequences can also be serious. It's estimated that thousands of deaths annually in the UK result from agricultural ammonia emissions (including those from poultry units), combined with pollution from car exhausts in urban areas. Delivering the UK's clean air agenda and safeguarding public health will require action to curb pollution from intensive poultry production.^{xix}

A shift to less and better chicken could also improve nutritional health. While chicken can form part of a healthy diet, and is an affordable animal protein, the nutritional quality of poultry meat has been undermined by intensive production. The modern meat chicken has lower concentrations of essential micronutrients and long chain omega 3 fatty acids, compared to free ranging and organic birds, primarily due to the grain-based feed and lack of external forage in intensive systems. A switch to more extensive, free range poultry production, including organic or agroecological poultry, could help to increase intake of essential long chain omega-3s, as part of a balanced diet rich in healthy plant proteins and better meat.^{xx}

THE PRODUCER CONTEXT

The expansion of intensive poultry in the UK has been driven by rising demand. Poultry production requires large investment but has been seen as a safe or smart move for producers, with an IPU helping a farm business diversify and become more resilient, with output that is less sensitive to the weather, less reliant on BPS or post-Brexit support, and a strong domestic market.

But producers are not powerful actors in the system. The industry is highly consolidated, with more than 90% of chickens produced by a small number of companies (Moy Park, 2 Sisters, Cargill and Faccenda, jointly behind Avara, and Banham Poultry). These companies typically control the entire process, from feed mills to meat processing. Broiler genetics are also proprietary, and breeding is consolidated. In the UK, the two largest international breeding companies, Aviagen and Cobb-Vantress, supply over 90% of the broiler stock.

Start-up costs for those moving into production are high, and the farmer must typically shoulder the burden of financial risk. An IPU housing 40,000 birds (a relatively small crop) can cost £350,000, with other costs associated with feeders, drinkers and heaters on top. To meet processor requirements for larger suppliers, units often consist of four houses of 50,000 birds each and cost roughly £2m to build. Despite the costs, the numbers of birds, and unit sizes, are determined not by how much cash the producer has, but the contract agreed with a processor to buy the product. The costs involved are so high, an average site could take as long as 10 years to pay for itself.

Feed supply is also highly consolidated, with opaque multinational Cargill supplying 70 per cent of UK imports of Brazilian soy, and half of these imports sourced from the Cerrado. Cargill has been accused of involvement in deforestation but has resisted pressure to commit to near-term and robust zero deforestation policies.

SOLUTIONS

While every effort should be made to shift poultry (and other livestock) feed supply chains onto a more sustainable footing, including via the introduction of alternative/novel feeds, the UK's appetite for chicken remains problematic. To deliver on climate, nature and health policy agendas, the UK will need to go beyond the sourcing of better feed and aim to reach 'peak poultry' consumption and production within 12 months, with declines thereafter in line with a transition to agroecology and healthy and sustainable diets.

This change must be driven by a shift in consumption. UK poultry production is more sustainable, in various respects, than products purchased from abroad. To avoid simply offshoring the UK's impact, diets must change. There are multiple benefits to be realised from a move towards less and better chicken, from reduced ammonia emissions to improved animal welfare, lower antibiotic usage to a smaller overseas footprint. These changes must be driven by government policy and more ethical business practice by poultry companies, recognising the limited power that producers wield.

As a matter of urgency, UK poultry companies should –

Commit to zero deforestation within their supply chains, curtailing the purchase of South American soy and transitioning to agroecological feed. They should also support producers to implement the Better Chicken commitment, adopting slower growing breeds and providing birds with a better life. Retailers should not be afraid of passing the increased costs on to consumers.

There are three priority actions for the UK Government –

1) Harness public procurement to shift diets towards less and better poultry

It's essential that diet change drives changes in production. Curbing poultry production without a correlated shift in diet will simply result in the UK further offshoring its impact. The government should harness public procurement to drive this change, in the first instance by ensuring that all poultry served in public institutions adheres to UK animal welfare standards and is purchased from British farms. Policy should shift diets to more and better plants, and away from intensive poultry. Public institutions such as schools and hospitals should be encouraged or required to serve more beans and pulses, while procuring higher welfare meat from organic and agroecological systems.

2) The Environment Bill should be strengthened

The Environment Bill introduces a "prohibition on using illegally produced forest risk commodities" such as soya in UK supply chains. The clause is hugely welcome, and signals genuine ambition from the government, but the clause must be strengthened in two respects if it is to be effective.

Firstly, while soya is within scope as a 'forest risk commodity', and the definition of 'forest' as "an area of land . . . with a tree canopy cover of at least 10%" will apply to savannah biomes such as the Cerrado, the definition fails to offer protection to areas of high nature value with a lower percentage of tree cover (such as biodiverse grasslands). As feed crop production can drive land conversion in these areas, the clause should be amended to extend to 'high nature value' land. There are agreed international definitions of 'HNV' land. If such land was in scope, the Bill would be more robust.

Secondly, the Bill states that UK businesses must not use forest risk commodities "unless relevant local laws were complied with in relation to that commodity." While this is not unreasonable, there are grounds to believe that local laws often provide inadequate protection from deforestation and damaging land conversion. Local laws can be inconsistently applied, and international agreements,

such as the Soy Moratorium, have not prevented crops implicated in deforestation from entering international supply chains. The Environment Bill must be strengthened to ensure that soy imports are not associated with environmental degradation, regardless of the local legislative context, with measures that ensure more robust oversight of environmental and social impacts.^{xxi}

3) No more intensive poultry units

In tandem with action to curb chicken consumption, the breaks must be put on intensive production. The government should place a moratorium on the construction of new IPUs (and other intensive livestock units) with immediate effect. With a 'lifespan' of at least a decade, each new IPU locks the UK further into an unsustainable pattern of consumption and land-use. It's time to say 'enough'. The government should commit to peak poultry consumption and production within 12 months.

Farmers with existing IPUs should be supported by government policy, and (primarily) by poultry companies, to implement the Better Chicken commitment and to source more agroecological feed. A combination of government policy and financial support should be harnessed to encourage more extensive and higher welfare production, including by ensuring the new farm animal welfare grants and payment support system is aligned with the peak poultry ambition. The UK Government should offer tax relief or capital grants to help farmers repurpose buildings and animal housing, where needed, with public procurement used to create a secure demand for agroecological and organic meat. Harder policy measures could also be introduced, such as a ban on the routine, preventative use of antibiotics; improvements to legal animal welfare standards; and measures to both reduce reliance on imported animal feed crops and to free-up UK land from feed crop production.

'FOOD NOT FEED'

It's widely recognised that food and farming need to change in response to the climate, nature, and health crises. We need to eat differently, and we need to use our land differently. Food not Feed is a Soil Association campaign promoting this dietary and land-use change. It asserts that livestock can play a key role in resolving the climate, nature, and health crises, but we must farm the right animals, in the right way, and ensure both we and they are consuming an appropriate diet. Broadly speaking, this means that we stop competing with animals for land and food, and commit to a ten-year transition to agroecology and healthy and sustainable diets.

There are multiple benefits to be realised in making this change –

- We could free up over a million hectares of land in ecologically sensitive areas of South America, radically curtailing the UK's imported climate and nature footprint.
- We could ease pressure on UK farmland, making space to farm with nature and sparing land for trees and woodlands, contributing to a net decrease of 75% in agricultural GHG emissions.
- We could ensure a better life for farm animals, easing the welfare burden imposed by intensification while tackling the drivers of antimicrobial resistance and zoonotic disease risk.
- We could improve the nutritional quality of diets (and the nutritional quality of the meat and dairy within our diets), easing pressure on the NHS.
- We could tackle some of the most damaging power dynamics in the food system, namely the corporate consolidation of livestock farming, delivering a fairer deal for citizens and farmers.

While delivering the 'ten-year transition' will require action across the food system, chicken poses a unique challenge and the greatest opportunity. Only by attaining 'peak poultry' can the UK deliver on its climate and nature commitments or secure a healthy and sustainable future.

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- ⁱⁱ In 2018, approximately 874 million broilers were slaughtered in the United Kingdom. The UK population is roughly 66 billion.
- ⁱⁱⁱ Davies and Wasley (2017) and Colley and Wasley (2020)
- ^{iv} 1.8 million tonnes, behind Poland (3.1 million tonnes) and France (1.9 million tonnes). Source: AVEC (2019) p22.
- ^v https://www.wwf.org.uk/sites/default/files/2020-07/RiskierBusiness_July2020_V7_0.pdf
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- ^{vii} https://www.wwf.org.uk/sites/default/files/2020-07/RiskierBusiness_July2020_V7_0.pdf
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- ^{ix} <https://tabledebates.org/building-blocks/soy-food-feed-and-land-use-change#SOYBB3>
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