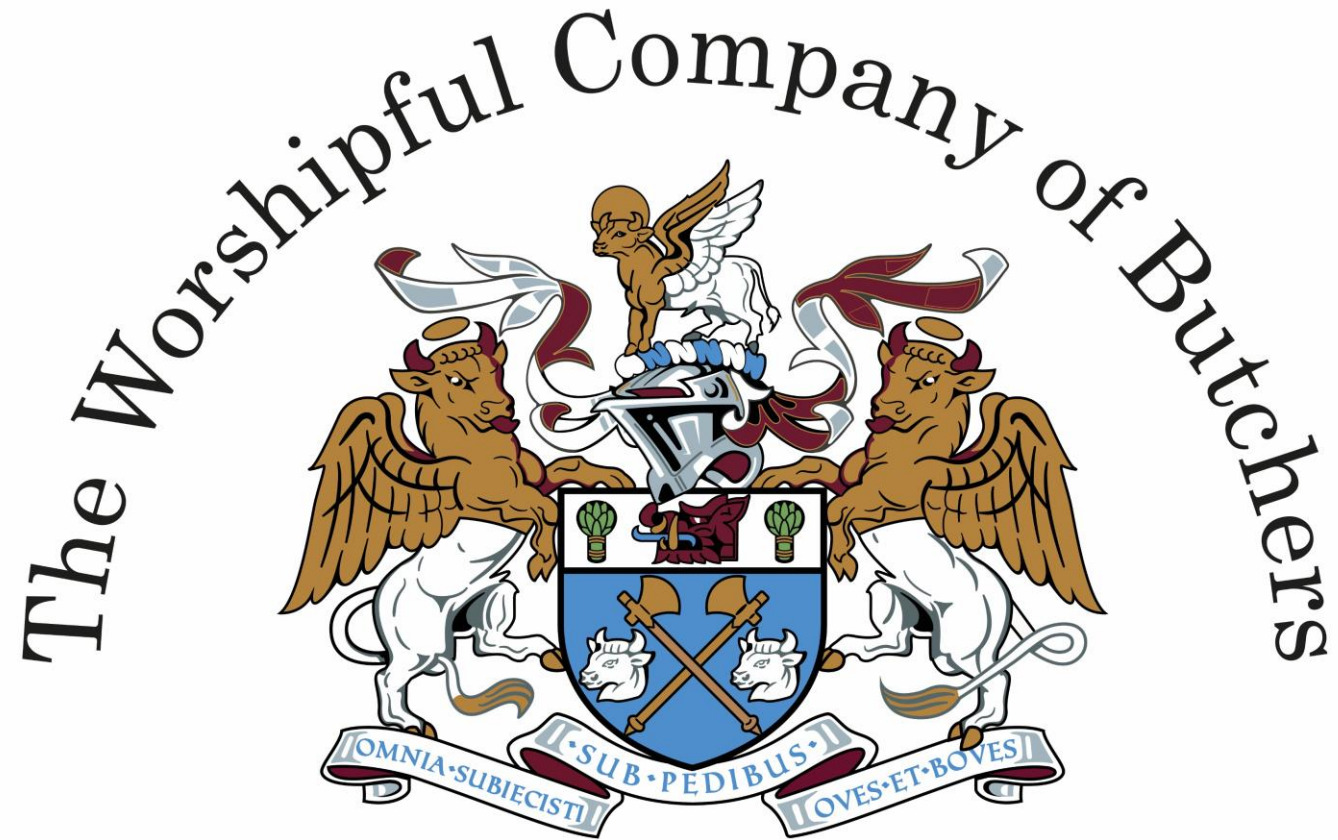




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City Meat Lecture 2025



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“Is there a role for livestock and meat in a modern society?”

From an outsider looking in....





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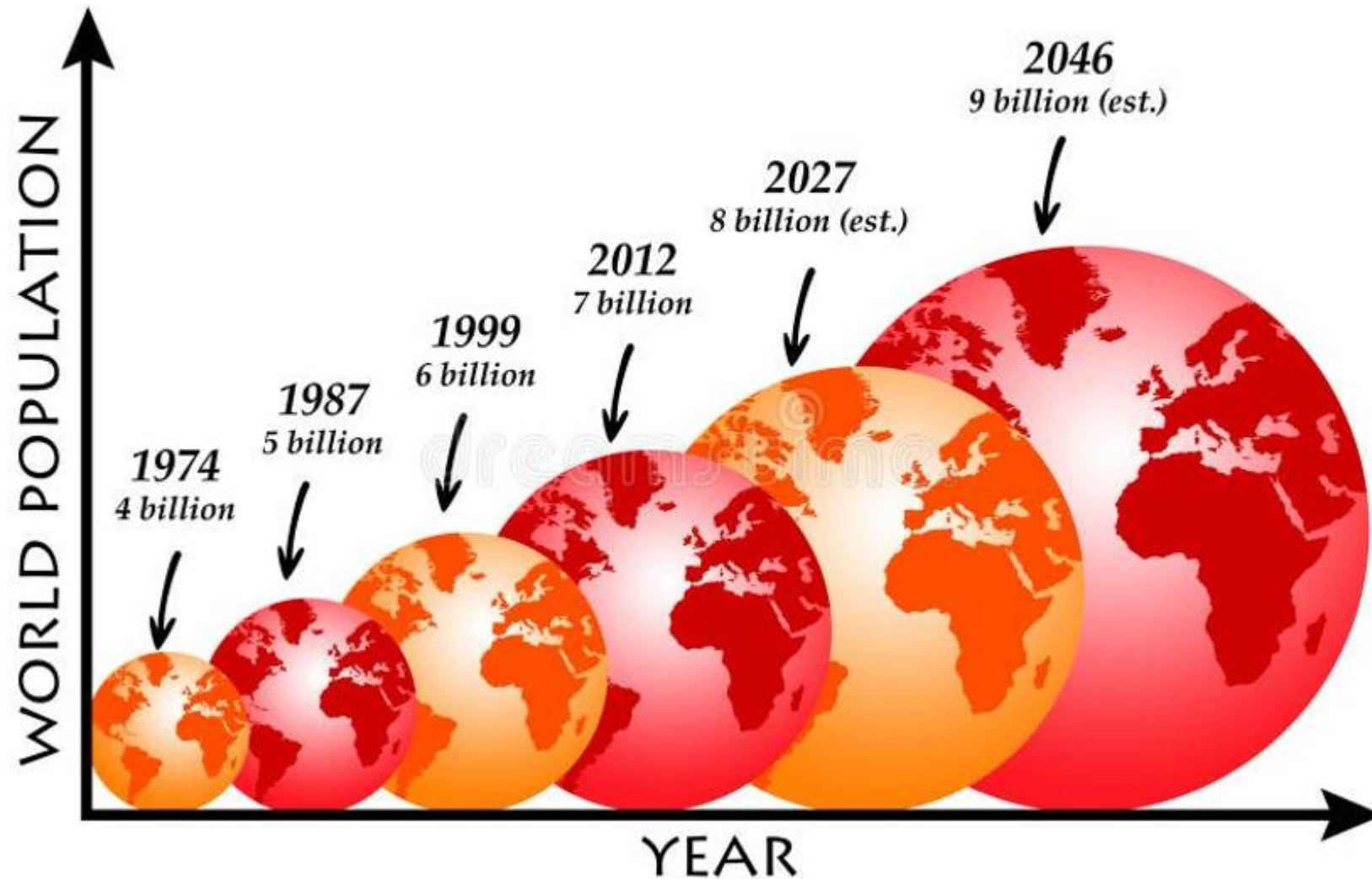
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What does modern mean?





Food Security by numbers





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Food and Agriculture Organization
of the United Nations

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Global Perspectives Studies



Methodologies

Resources

The future of food and agriculture

Food and agriculture projections to 2050



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What foods are bad to eat?





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Jack Bobo

Executive Director

Rothman Family Institute for Food Studies

Every great story needs a villain



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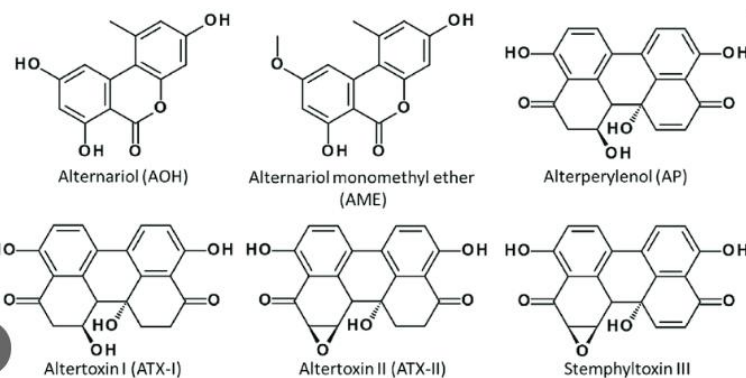


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RiSK





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A simple statement

Less processed foods are generally healthier because they retain their natural nutrients and avoid the excess salt, sugar, fats and additives commonly found in highly processed foods.





Global Per-Capita Meat Consumption by Type (Indicative)

(kg/person/year; excludes fish & seafood)

Meat Type	2005	2025	2050	Change 2005→2025 %	Change 2025→2050 %
Beef & buffalo	6.6	6.17	5.5	-6.5%	-10.9%
Pork	12.2	13.43	14.0	+10.1%	+4.2%
Poultry	12.7	18.61	20.5	+46.5%	+10.2%
Sheep & goat	1.9	2.21	2.3	+16.3%	+4.1%



- Poultry is the main growth driver globally — large rise from 2005 to 2050.
- Beef consumption trends downward, driven by:
 - Health and sustainability concerns
 - Slower growth of production in key regions
 - Substitution towards cheaper proteins (especially poultry)
- Pork grows slowly, largely influenced by China's market dynamics.
- Sheep & goat see small but steady increases, mainly in Africa, Middle East & South Asia.

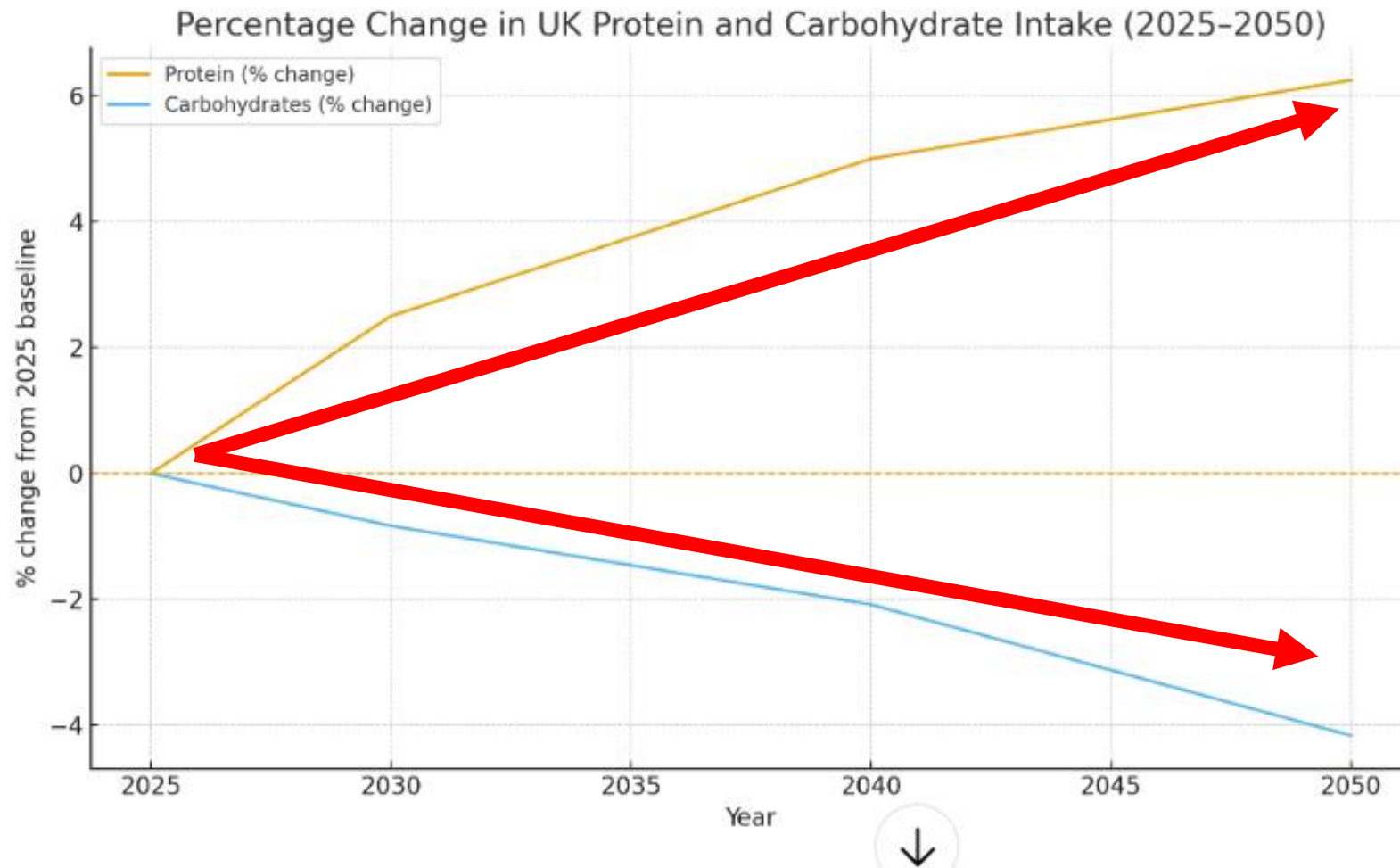


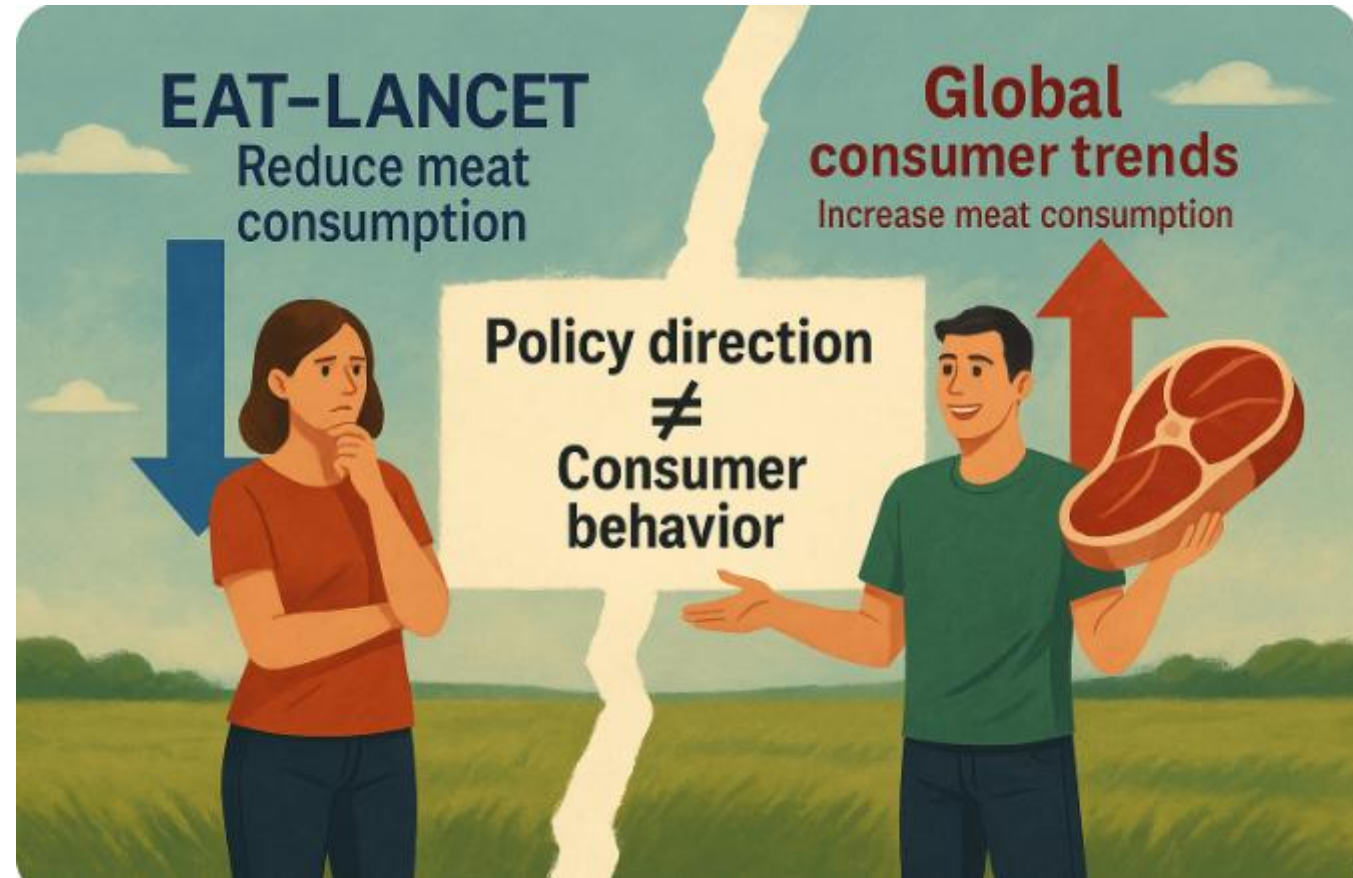
Extra Meat Required by 2050 vs 2025 (Population-Adjusted)

Meat Type	Total in 2025 (Mt/yr)	Total in 2050 (Mt/yr)	Additional Required (Mt/yr)
Beef & buffalo	49.98	53.35	+3.37 Mt
Pork	108.78	135.80	+27.02 Mt
Poultry	150.74	198.85	+48.11 Mt
Sheep & goat	17.90	22.31	+4.41 Mt
Other meats (camel, game, etc.)	29.97	35.89	+5.92 Mt



Percentage Change In UK Protein And Carbohydrate Intake (...)







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Demand for high-protein foods soars, fuelled by social media trends and the shift from ultra-processed foods

Published On: 3rd March 2025 | Categories: [Company News](#), [Latest News](#), [Trends](#) | By [Carley Espinoza](#)





Diet Category

Estimate

Source & Notes



Vegan

~ 2-3%

The Vegan Society tracker: ~ 2-3% for GB adults. [YouGov +1](#)

Vegetarian (no meat)

~ 5-7%

YouGov data: ~ 5-7%. [YouGov +1](#)

Flexitarian ("mainly vegetarian, occasionally meat/fish")

~ 25%

ProVeg International UK/Smart Protein survey (2023): 25% self-identified flexitarian. [ProVeg Internati... +1](#)

Omnivore / meat-eater (i.e., not vegetarian/vegan/flexitarian)

~ ~65-70% (implied residual)

Derived by subtraction from total adult population when other categories cited.



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REASONS TO BE CHEERFUL





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"The imperative to transform our food systems, and a game plan
to get us there ... as important as it is enjoyable."

—Caitlin Welsh, Director, CSIS Global Food and Water Security Program

MEAT

How the Next Agricultural
Revolution Will Transform Humanity's
Favorite Food—and Our Future



BRUCE FRIEDRICH

Founder and President, Good Food Institute



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IT'S GIVING

STEAK

(FROM PLANTS)













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Food in the Anthropocene: the EAT–*Lancet* Commission on healthy diets from sustainable food systems

Cited 12,747 times and has been a major driver for national and international food policy

But a rigorous **systematic review** of the first two years after publication (Jan 2019–Apr 2021) identified **76 articles that critiqued the EAT-Lancet report** among 192 influential citing papers

Core Recommendation

For a “planetary health diet” per person per day:

Food	Recommended daily intake	Approx. change vs typical Western diets
Red meat (beef, lamb, pork)	~14 g/day (≈ 1 small serving per week) ~98 g/week	~80–90% reduction
Poultry	~29 g/day	Moderate reduction
Fish	~28 g/day	Similar or slightly increased
Eggs	~1.5 eggs/week	Large reduction (many Western diets = 1 / day)

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The EAT-*Lancet* Commission on healthy, sustainable, and just food systems

Published: October 2, 2025



Item (animal-source)	Recommended (g/day)	Allowable range (g/day)	≈ g/week (rec.)	Easy weekly shorthand* 
Red meat (beef, pork, lamb)	15	0–30	~105 g/week	~one small steak every 1–2 weeks
Poultry	30	0–60	~210 g/week	~two 100 g servings/week
Fish & shellfish	30	0–100	~210 g/week	~two 100 g servings/week
Eggs	15	0–25	~105 g/week	~2 eggs/week (up to ~3 eggs at the top of the range)
Milk or dairy equivalents†	250	0–500	~1.75 kg/week	~1 serving/day (can be yoghurt/cheese equivalents)



The **EAT-Lancet Commission** recommended reducing meat consumption mainly for **three core reasons**, each supported by strong evidence:

Reason	Explanation	Key Points
1. Human health	High intake of red and processed meat is associated with increased risk of several chronic diseases.	Linked to colorectal cancer, cardiovascular disease, type 2 diabetes ; recommends shifting to plant-rich protein for fibre, unsaturated fats, and protective nutrients.
2. Environmental sustainability	Livestock production—especially ruminant meat (beef & lamb) —has a high environmental footprint.	High greenhouse gas emissions (methane) ; large land and water use ; deforestation and biodiversity loss driven by pasture & feed crop expansion.
3. Global food system efficiency & equity	Feeding crops to animals and then consuming the animals is resource-inefficient compared to eating more plants directly.	Reducing meat allows more total food calories and protein to be produced per unit land, supporting food security in a growing population.





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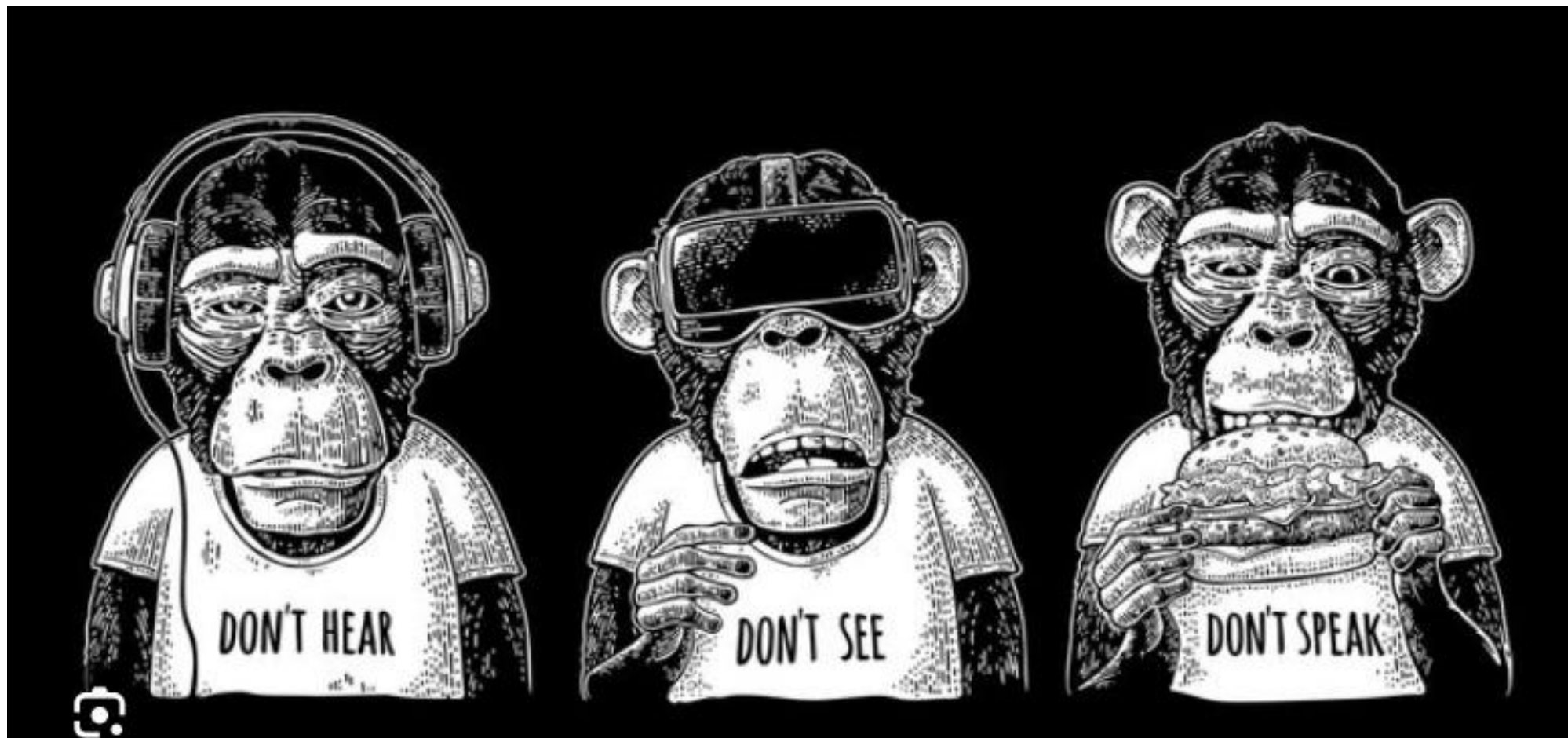


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Health Issues and Meat Consumption

NOVA Classification of Meat Products

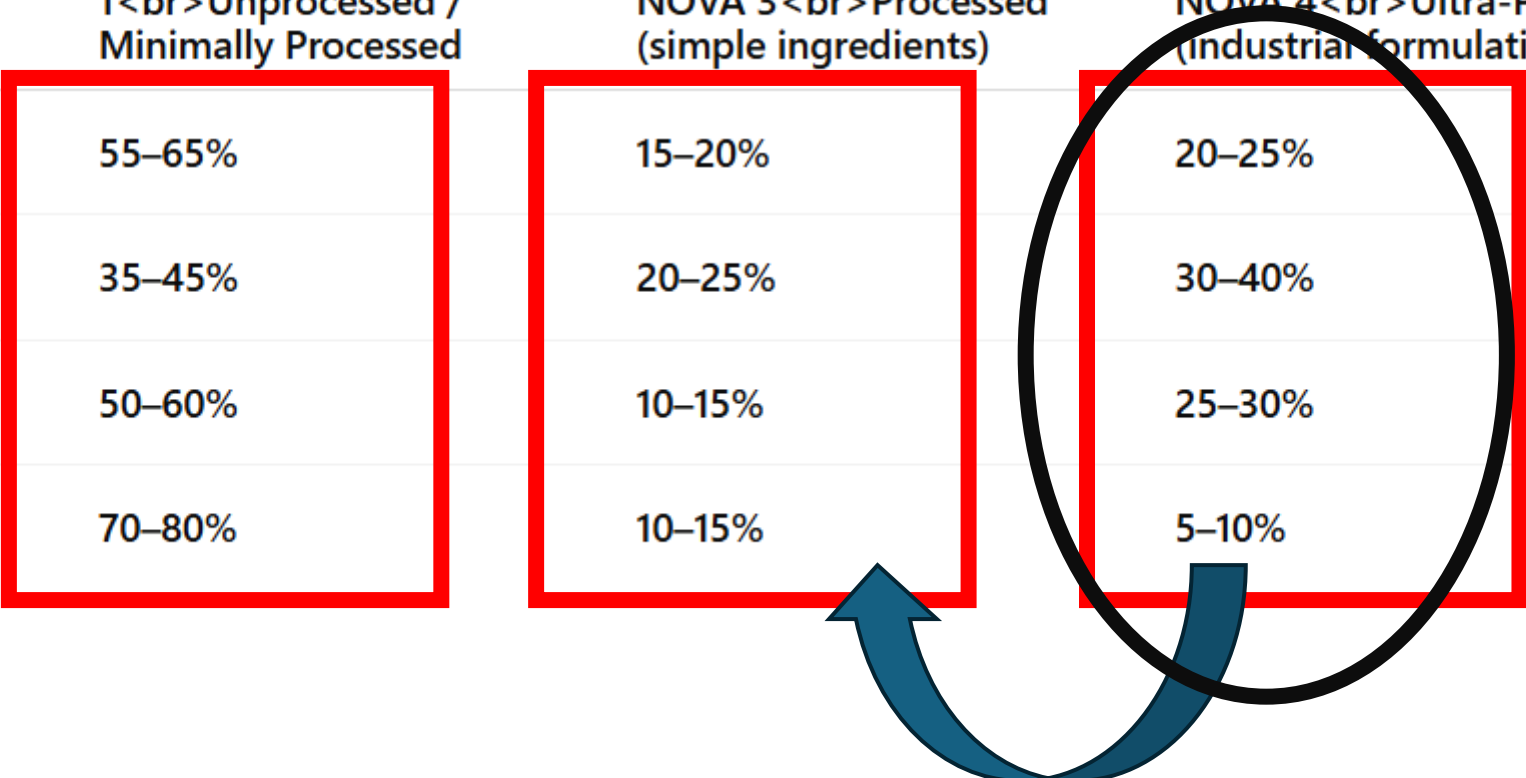
NOVA Group	Description
NOVA 1: Unprocessed or Minimally Processed Foods	Fresh foods that have not been altered beyond simple processes such as cutting, chilling, freezing, mincing, fermentation without additives, drying. No added fats, salts, sugars, or preservatives.
NOVA 2: Processed Culinary Ingredients	Substances extracted from natural foods, not generally applied directly to meat but used in cooking.
NOVA 3: Processed Foods	Simple processed products made with 2–3 ingredients, typically salt, sugar, oils or fermentation. No industrial formulations.
NOVA 4: Ultra-Processed Foods (UPFs)	Industrially formulated foods with additives, flavour enhancers, stabilisers, colourings, emulsifiers. Often contain added nitrates/nitrites, phosphates, ↓ modified starches, etc.



Estimated Distribution of Meat Products Across NOVA Categories

Typical Market Shares of Meat Products by NOVA Group (%)

Meat Type	NOVA 1 Unprocessed / Minimally Processed	NOVA 3 Processed (simple ingredients)	NOVA 4 Ultra-Processed (industrial formulations)
Beef	55–65%	15–20%	20–25%
Pork	35–45%	20–25%	30–40%
Chicken	50–60%	10–15%	25–30%
Lamb	70–80%	10–15%	5–10%

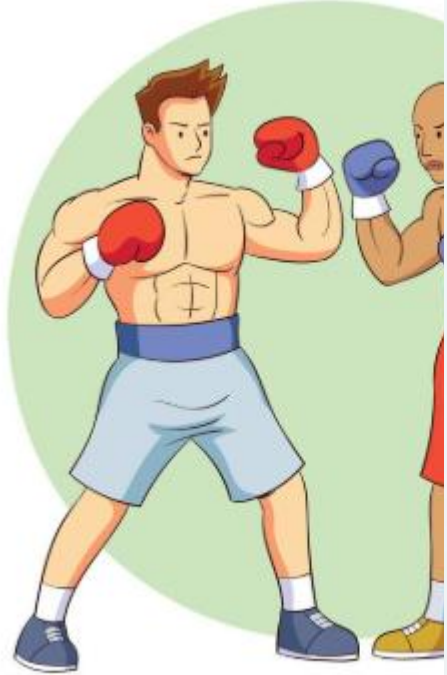




✓ 1. Remove Industrial Additives and Use Simple, Traditional Preservation Ingredients

NOVA 4 classification is triggered primarily by **additives** such as:

- nitrites/nitrates
- phosphates
- modified starches
- flavour enhancers (MSG)
- emulsifiers
- stabilisers
- smoke flavourings
- antioxidant blends (ascorbates, erythorbates)



er
:s

report



he FSA's Partial Nitrite Review must acted

Chris Elliott and Brian Green reveal how newly released
on Toxicity minutes expose fundamental flaws in the Food
Agency's partial nitrites review. They set out why the review
thdrawn and replaced with a comprehensive, scientifically
essment that reflects the full body of evidence.





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**CHANGING
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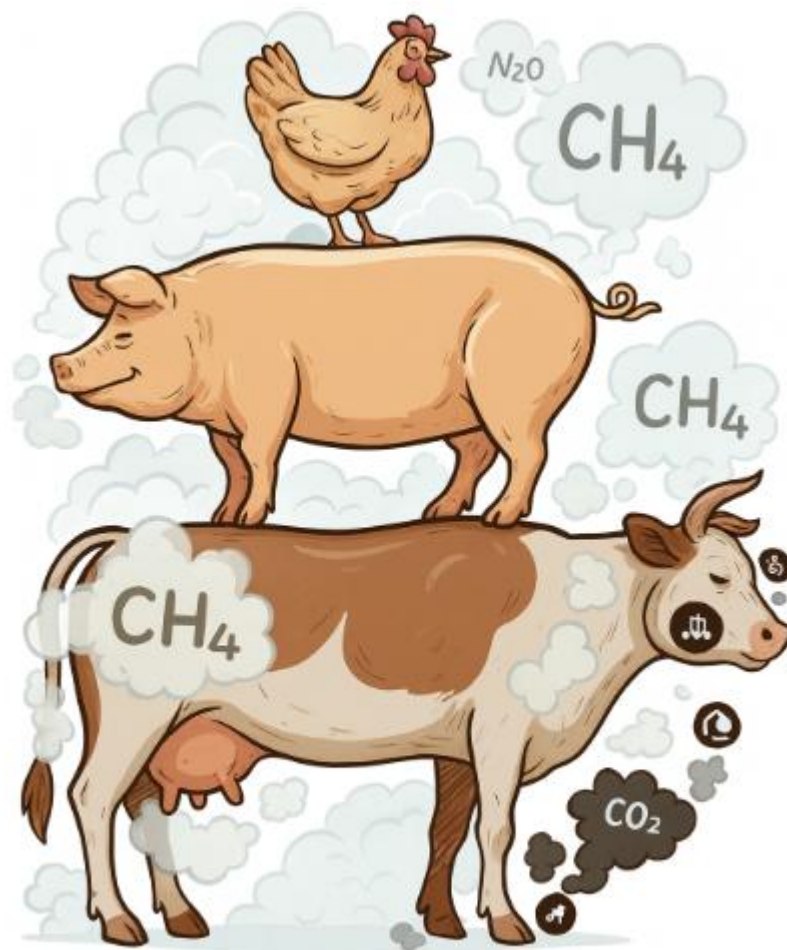


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NOT ALL LIVESTOCK FARMING SYSTEMS ARE CREATED EQUAL





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Science tells us what we can do.
The public tells us what we should do.

Insights

Arla Foods & the Bovaer Controversy:

When Misinformation Undermines Trust

»

WARNING

Background image shows a cow in a field.



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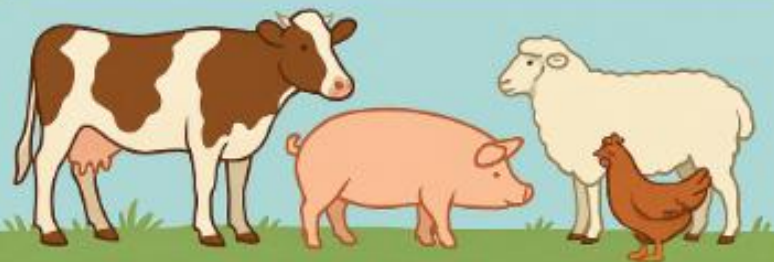
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CHANGING THE NARRATIVE

WAYS TO REDUCE EMISSIONS FROM MEAT PRODUCTION



**PRECISION NUTRITION
& FEED INNOVATION**

**SELECTIVE BREEDING
& GENOMIC ACCELERATION**

**REGENERATIVE GRAZING
& CARBON-SMART LAND MANAGEMENT**

**DIGITALISATION, ROBOTICS
& SMART FARMING SYSTEMS**

**LOW-CARBON PROCESSING,
ENERGY & SUPPLY-CHAIN OPTIMISATION**



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UK LIVESTOCK INDUSTRY MOVING TO LOW CARBON MEAT & MILK ENHANCING SUSTAINABILITY





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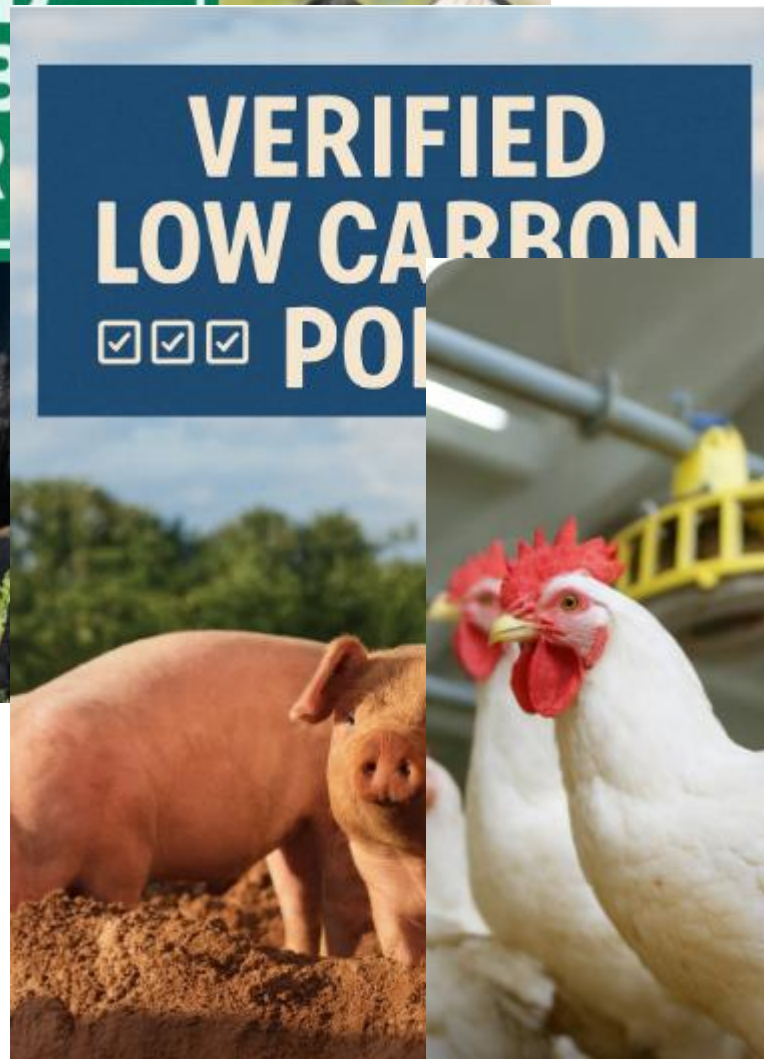


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Verified Low Carbon Thai Rice

Overview





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UK Government

Messages to Government

- Economic Contribution
- National Food Security & Resilience
- Environmental & Climate Commitment
- Public Health & Nutrition
- Food Integrity & Consumer Trust



Asks from Government

- A Long-Term UK Food Strategy
- Reformed Agricultural Support
- Investment in Agri-Tech & Infrastructure
- Fair and Resilient Supply Chains
- A Skills & Labour Plan for Agri-Food



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[COMMISSIONS](#) | [GLOBAL HEALTH](#)

The EAT-*Lancet* Commission on healthy, sustainable, and just food systems

Published: October 2, 2025



The Commission outlines eight potential solutions aimed at advancing health, environmental, and justice goals:

- Protect and promote traditional healthy diets
- Create accessible and affordable food environments that increase demand for healthy diets
- Implement sustainable production practices that store carbon, create habitat, and improve water quality and availability
- Halt agricultural conversion of intact ecosystems
- Reduce food loss and waste
- Secure decent working conditions across the food system
- Ensure meaningful voice and representation for food systems workers
- Recognise and protect marginalised groups



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THE MEAT INDUSTRY: A SOLUTION PROVIDER



PROTECT AND
PROMOTE
TRADITIONAL
HEALTHY DIETS

CREATE ACCESSIBLE
AND AFFORDABLE
FOOD ENVIRONMENTS

IMPLEMENT
SUSTAINABLE
PRODUCTION
PRACTICES



HALT
AGRICULTURAL
CONVERSION
OF INTACT
ECOSYSTEMS

REDUCE FOOD
LOSS AND
WASTE



SECURE DECENT
WORKING CONDITIONS
ACROSS THE FOOD
SYSTEM

ENSURE MEANINGFUL
VOICE AND
REPRESENTATION
FOR FOOD
SYSTEMS WORKERS



RECOGNISE AND
PROTECT
MARGINALISED
GROUPS





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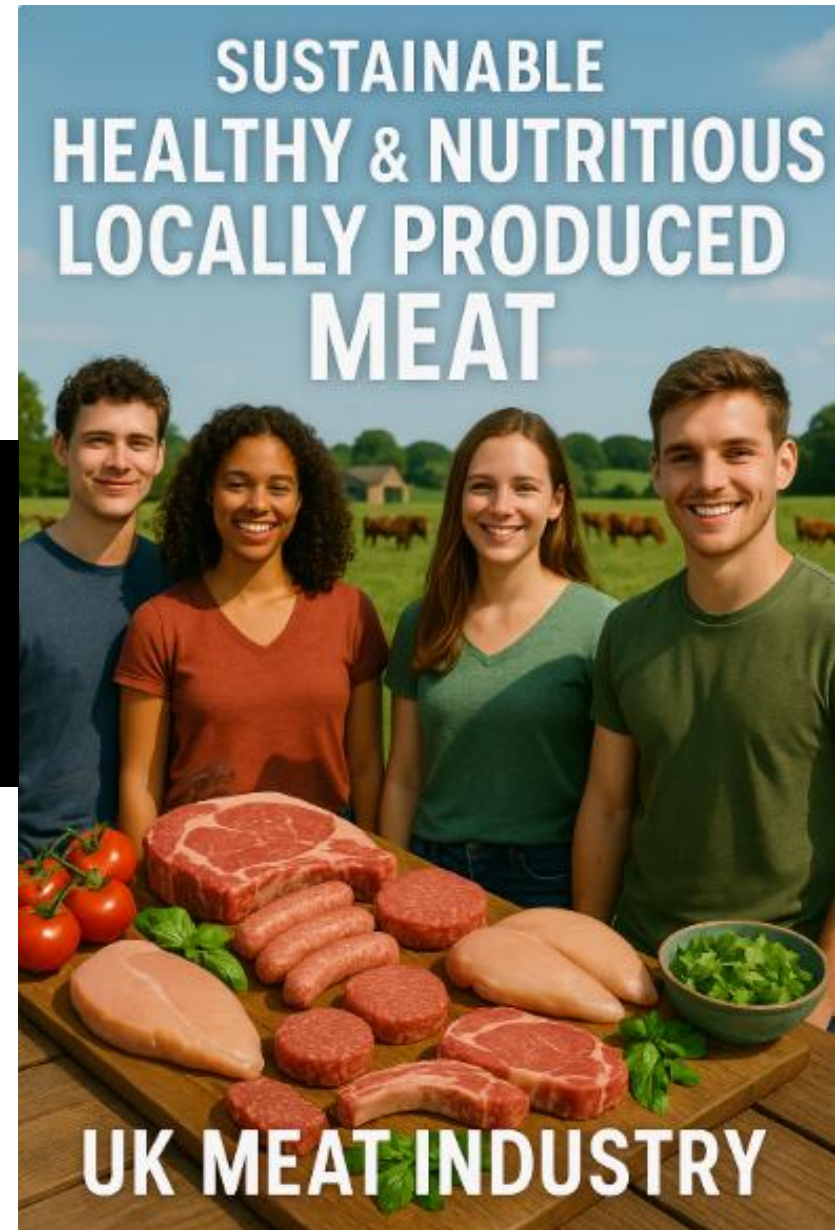
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CHANGING
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The stories we tell
determine the future we get





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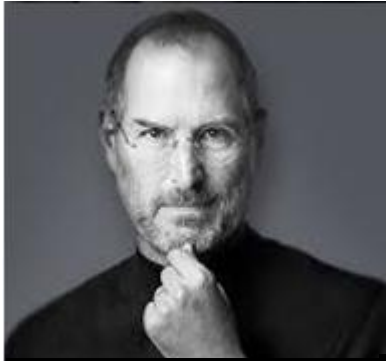


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Steve Jobs

"Innovation is the ability to see change as an opportunity – not a threat."



**Stop preparing for the
future you expect.**

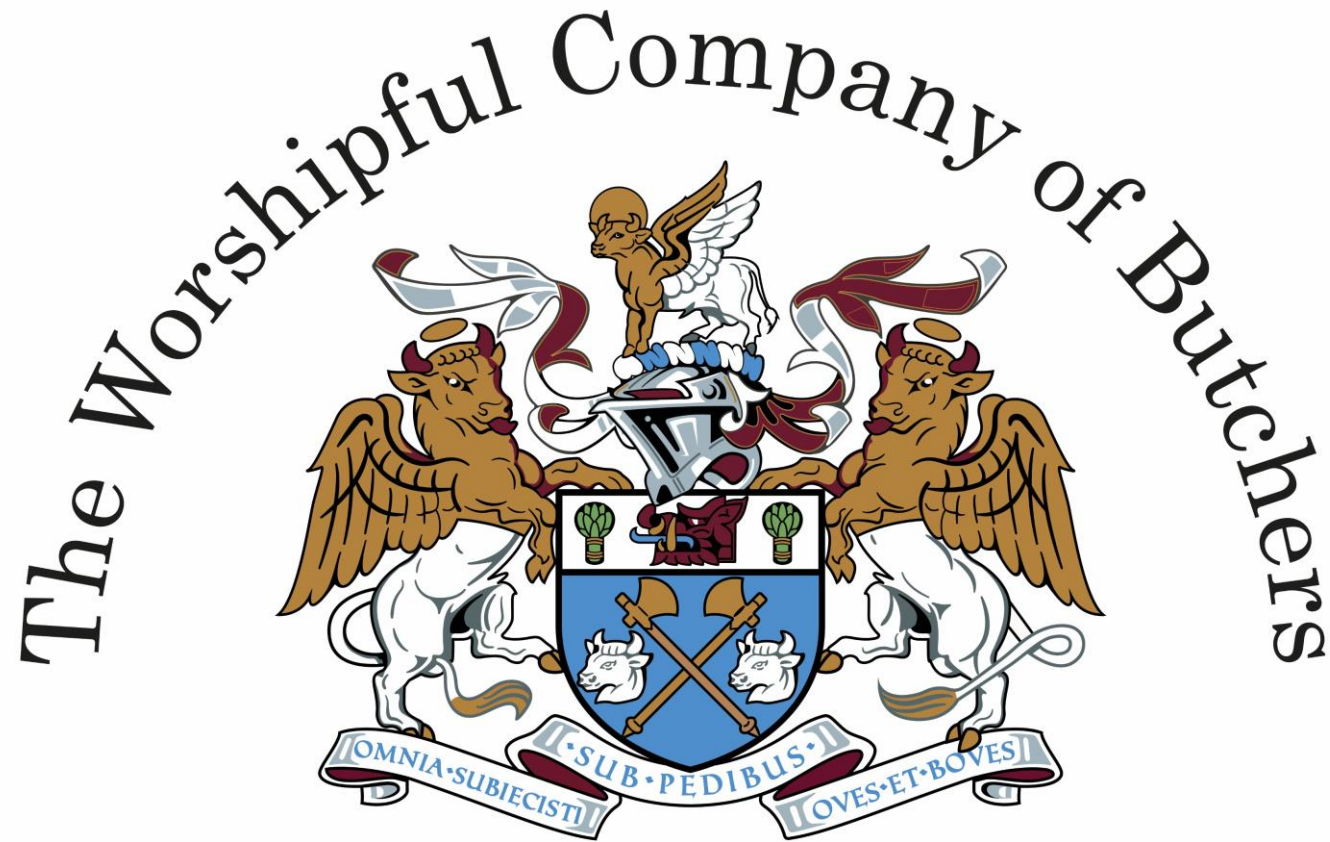
**Start creating the
future you want**



*The UK meat industry isn't the problem child of the food system -
it's part of the solution - but now you have to show it.*



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