

PRESS RELEASE

Landmark FAO report contains serious errors downplaying climate benefits of lower-meat diets, and must be retracted, say 100+ international organisations and experts

Key points:

- *Over 100 organisations and academics have called on the FAO to retract a key report over serious methodological errors downplaying the emissions reduction potential of a shift to lower-meat and dairy diets, [a joint-letter released today](#).*
- *The FAO's claims were mainly based on two papers. Scientists who co-authored these papers recently accused the FAO of distorting their work and [called for the report to be retracted](#).*
- *Last year, the FAO [faced allegations](#) from former staff that it had ostracised them and censored their work for highlighting the climate emissions impact of livestock and potential benefits of dietary change to reduce meat and dairy consumption.*

Over 100 organisations and academic experts have called on the FAO to retract a report over serious methodological errors, which downplay the emissions saving potential of shifts to lower-meat and dairy diets.

In the report *Pathways towards Lower Emissions*, published at COP28 in December 2023, the FAO made claims that lower meat and dairy diets had limited potential to reduce emissions from global livestock, promoting instead other methods such as intensification of livestock production. The main evidence the FAO report cited for this claim were papers co-authored by academics Dr Paul Behrens and Dr Matthew Hayek.

In April 2024, Behrens and Hayek wrote to the FAO to express “dismay” that the FAO’s paper “seriously distorts” their scientific papers, calling for a retraction and re-issuing of the report with “more appropriate sources selected and methodological errors rectified” [1]. Behrens and Hayek concluded that as a result of the serious errors it contains, the FAO report “systematically underestimates” the opportunity of sustainable lower-meat and dairy diets for reducing greenhouse gas (GHG) emissions [2] compared to a business-as-usual 2050 scenario by a factor of between 6 and 40 [3].

Now, over 100 organisations and experts have signed [a joint-letter](#) to the FAO’s Director-General, Dr. Qu Dongyu, calling for the report to be retracted. The letter, coordinated by Feedback Global, is signed by 78 civil society organisations including Greenpeace, Changing Markets Foundation, Friends of the Earth US, Rainforest Action Network, ActionAid US and Seeding Sovereignty. It is also signed by 22 academic experts, Connecticut State Representative David Michel and investor Adasina Social Capital.

The organisations support Behrens and Hayek’s call for the *Pathways* report to be retracted and call for “a comprehensive investigation of how these serious errors and systemic biases were allowed”, raising concern over a media report from 2023, in which ex-FAO officials said they had been sidelined and censored by the FAO following lobbying from high livestock-producing companies and countries [4].

Echoing the call by Behrens and Hayek, the organisations call for the *Pathways* report to be retracted and reissued only once the methodological errors it contains have been rectified, drawing on more

appropriate and up-to-date studies and following engagement in serious dialogue with independent academics and experts from civil society. The letter also recommends that the release of the FAO's 2050 Roadmap should "be delayed until it has adopted "more robust, inclusive and transparent processes".

The significant methodological errors in the FAO's *Pathways* report include double counting meat emissions to 2050, mixing different baseline years in its analysis, and including emissions from increases in vegetable, fruit and nut consumption which are unrelated to substituting meat and dairy in diets [5]. In addition, the FAO makes several inappropriate modelling choices, such as ignoring the potential carbon sequestration from land spared by dietary change and conflating sustainable healthy diets with nationally recommended diets (NRDs) – most of which do not factor sustainability into their design – rather than using models like the EAT-Lancet diet. It also uses NRDs which have since become obsolete as many countries have since updated theirs to recommend lower meat consumption [6]. For instance, Spanish Guidelines from 2022 now recommend 0-3 meat portions/week [7] and German guidelines from 2024 now recommend no more than 300g meat per week [8].

The organisations call on the FAO to align its research with other peer-reviewed science, such as EAT-Lancet and the IPCC's Special Report on Climate Change and Land, which estimate much higher emissions savings. For instance, the IPCC cites a study which estimates that a flexitarian diet (75% of meat and dairy replaced by cereals and pulses, with only one portion of red meat a week) would reduce global emissions by approximately 5 GtCO₂-eq per year [9] - over 9 times higher than the FAO's estimate.

QUOTES

Martin Bowman, Senior Policy and Campaigns Manager and Feedback, said:

"The FAO has made serious and embarrassing errors in its *Pathways* report – these mistakes are a stain on the FAO's reputation, unless rectified. All these errors systematically underestimate the emissions reduction potential of lower-meat and dairy diets. People will rightly ask whether FAO staff have simply been incompetent, or whether this indicates systematic bias against dietary change – particularly in light of recent allegations from ex-FAO staffers that they have been ostracised and censored for their work on dietary change, following lobbying from livestock companies and high-meat producing countries. The FAO must restore its integrity by immediately retracting the flawed *Pathways* report, and reissuing it with mistakes rectified, following engagement with academic experts and civil society."

Nusa Urbancic, CEO of Changing Markets Foundation, said:

"The debate around the climate impact of food and farming is extremely polarised and riddled with industry-funded disinformation. For this reason, it's of paramount importance that international organisations, such as the FAO, present impartial and scientifically robust reports that can serve governments as a guide for climate action in the sector. We are concerned about the lack of rigour in the *Pathways* report and we are convinced that the FAO can and must do better."

Merel van der Mark, Senior campaigner at Rainforest Action Network, said:

"It was shocking to hear JBS, the world's largest meat packer, proclaim at an event during the COP in Dubai, that the report just released by the FAO showed that meat was 'not the problem, but the

solution to the climate crisis'. Now that we know that the FAO distorted scientific papers, it makes one wonder what role JBS and other meat companies had in shaping the FAO's report."

Pete Smith, Professor of Soils & Global Change at the University of Aberdeen, said:

"While it is reasonable to involve stakeholders in such a report, it is very disappointing to see the pathways and recommendation in the report being so heavily skewed by vested interests. The science is clear that a reduction in consumption of livestock products is overconsuming countries is an essential lever for climate change mitigation, so it is unfathomable to see this option practically ignored and the science misused. The FAO has long been a trusted voice in the space, which makes this report even more disappointing."

Shefali Sharma, Global Agriculture Campaigner with Greenpeace [16], said:

"The FAO continues to have major problems with conflict of interest, particularly in its partnership with Big Dairy corporations. The influence of the Global Dairy Platform, the dairy industry's biggest corporate lobby is evident in its joint publication with the industry. The FAO's Pathways report once again downsizes the estimation of livestock's contribution to climate change, though the previous estimate was already challenged by academics. We would like to see the FAO hold up stringent standards for peer review that are truly independent, transparent and rigorous so that it can remain trusted and influential in food and climate agriculture policy amidst other UN bodies."

NOTES TO EDITORS

Joint-letter will be accessible [here](#) - please if possible link to report in coverage:

Further quotes available on request

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FURTHER INFORMATION

Comments by Behrens and Hayek on the FAO report:

In April 2024, Matthew Hayek, Assistant Professor at New York University, commented to the *Guardian* newspaper that "The FAO's errors were multiple, egregious, conceptual and all had the consequence of reducing the emissions mitigation possibilities from dietary change far below what they should be. None of the mistakes had the opposite effect." [10]

Other responses to Behrens and Hayek's letter:

FAIRR, a global investor network with a membership of \$70 trillion in collective assets of support, has also said that since the FAO is responsible for both the Pathways and upcoming 2050 Roadmap, the "concerns raised by the authors [Behrens and Hayek]" extend to the 2050 *Roadmap* report – saying "It is FAIRR's expectation that the UN-FAO will provide a substantive response to the issues raised by Professors Behrens and Hayek and will make adjustments to their analyses if and as needed" and emphasising that "the highest level of academic integrity and impartiality must be maintained by the UN-FAO" for the result to be scientifically sound [11].

The emissions mitigation potential of dietary change:

The FAO *Pathways* report misleadingly estimated that the emissions mitigation potential of dietary change is only 0.19-0.53 Gt CO₂-equivalent per year.

Behrens and Hayek estimate that this is between 6 to 40 times lower than the actual potential. Based on Clark et al.'s (2020) modelling, the direct emissions mitigation potential from dietary change in line with the EAT-Lancet diet is closer to 3.10 Gt CO₂ equivalent per year, rising to 6.22 Gt CO₂eq per year if the carbon sequestration potential from ecosystem restoration on spared land is factored in, compared with a 2050 BAU baseline [12].

The International Panel on Climate Change (IPCC) found, with high confidence, that a shift to more plant-based diets could mitigate GHG emissions by between 0.7 – 8 GtCO₂-eq per year, with higher reductions in meat and dairy leading to higher emission reductions [13]. For instance, the IPCC cites a study which estimates that a flexitarian diet (75% of meat and dairy replaced by cereals and pulses, with only one portion of red meat a week) would reduce global emissions by approximately 5 GtCO₂-eq per year [14] - over 9 times higher than the FAO's estimate.

A recent survey [15] of over two hundred climate scientists and food and agriculture experts, over half of whom have authored IPCC reports, found that:

- Global livestock emissions need to be reduced by 50% by 2030 and 61% by 2036, with faster and deeper reductions in higher-income countries, in order to limit global warming in line with the Paris agreement;
- 78% of the experts surveyed said that absolute global livestock numbers need to peak by 2025;
- Reducing human consumption of livestock products and reducing the number of livestock animals were ranked as having the biggest potential for reducing livestock emissions, whilst intensification of livestock was rated as the measure with lowest potential.

The emissions mitigation of shifting to vegan diets would be even higher. Poore and Namecek (2018), a peer-reviewed meta-analysis in the journal *Science* based on around 38,000 farms producing 40 different agricultural goods around the world, estimated that the total emissions mitigation potential of dietary change towards vegan diets was 14.7 billion tonnes of CO₂eq reduction per year – 6.6 billion tonnes of direct CO₂eq reduction, plus an additional 8.1 bn tonnes of CO₂eq of carbon removals per year for 100 years if nature is restored on the land spared.

More info on Feedback:

Feedback is a UK- and Netherlands-based environmental campaign group working for food that is food for the planet and its people. For more info, see: <https://feedbackglobal.org/>

References:

[1] Paul Behrens and Matthew Hayek, "Letter to Dr Tiensin: Retraction Request - FAO's Pathways toward Lower Emissions Report," April 9, 2024, <https://www.universiteitleiden.nl/binaries/content/assets/science/cml/essays/retraction-request-pathways-to-lower-emissions.pdf>.

[2] Paul Behrens and Matthew Hayek, "Letter to Dr Tiensin: Retraction Request - FAO's Pathways toward Lower Emissions Report," April 9, 2024,

<https://www.universiteitleiden.nl/binaries/content/assets/science/cml/essays/retraction-request-pathways-to-lower-emissions.pdf>.

[3] NOTE: These are estimated savings if the EAT-Lancet diet was adopted globally. The EAT-Lancet Planetary Health Diet was a diet modelled by the EAT–Lancet Commission of scientists and experts aiming to achieve healthy diets for all, within planetary boundaries. For more info, see: <https://eatforum.org/eat-lancet-commission/the-planetary-health-diet-and-you/> Behrens and Hayek mention the “6 to 40” estimate in: Arthur Neslen, “UN Livestock Emissions Report Seriously Distorted Our Work, Say Experts,” *The Guardian*, April 19, 2024, sec. Environment, <https://www.theguardian.com/environment/2024/apr/19/un-livestock-emissions-report-seriously-distorted-our-work-say-experts>.

[4] Arthur Neslen, “‘The Anti-Livestock People Are a Pest’: How UN Food Body Played down Role of Farming in Climate Change,” *The Guardian*, October 20, 2023, sec. Environment, <https://www.theguardian.com/environment/2023/oct/20/the-anti-livestock-people-are-a-pest-how-un-fao-played-down-role-of-farming-in-climate-change>.

[5] Paul Behrens and Matthew Hayek, “Letter to Dr Tiensin: Retraction Request - FAO’s Pathways toward Lower Emissions Report,” April 9, 2024, <https://www.universiteitleiden.nl/binaries/content/assets/science/cml/essays/retraction-request-pathways-to-lower-emissions.pdf>.

[6] Paul Behrens and Matthew Hayek, “Letter to Dr Tiensin: Retraction Request - FAO’s Pathways toward Lower Emissions Report,” April 9, 2024, <https://www.universiteitleiden.nl/binaries/content/assets/science/cml/essays/retraction-request-pathways-to-lower-emissions.pdf>.

[7] ASEAN, “Food-based dietary guidelines - Spain,” Food and Agriculture Organization of the United Nations, 2022, <http://www.fao.org/nutrition/educacion-nutricional/food-dietary-guidelines/regions/spain/es/>.

[8] Deutsche Gesellschaft für Ernährung e. V., “DGE-Ernährungskreis,” Deutsche Gesellschaft für Ernährung e. V., 2024, <http://www.dge.de/gesunde-ernaehrung/gut-essen-und-trinken/dge-ernaehrungskreis/>.

[9] C. Mbow et al., “Food Security. In: Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems” (IPCC, 2019), https://www.ipcc.ch/site/assets/uploads/sites/4/2021/02/08_Chapter-5_3.pdf Chapter 5 p488.

[10] Arthur Neslen, “UN Livestock Emissions Report Seriously Distorted Our Work, Say Experts,” *The Guardian*, April 19, 2024, sec. Environment, <https://www.theguardian.com/environment/2024/apr/19/un-livestock-emissions-report-seriously-distorted-our-work-say-experts>.

[11] FAIRR, “FAIRR Comments on Request by Academics for Retraction of FAO Report | FAIRR,” FAIRR, April 30, 2024, <https://www.fairr.org/news-events/press-releases/fairr-comments-on-request-by-academics-for-retraction-of-fao-report>.

[12] Michael A. Clark et al., “Global Food System Emissions Could Preclude Achieving the 1.5° and 2°C Climate Change Targets,” *Science* 370, no. 6517 (November 6, 2020): 705–8, <https://doi.org/10.1126/science.aba7357>; Behrens and Hayek, “Letter to Dr Tiensin: Retraction

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<https://www.universiteitleiden.nl/binaries/content/assets/science/cml/essays/retraction-request-pathways-to-lower-emissions.pdf>.

[13] P.R. Shukla et al., "Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems - Technical Summary" (IPCC, 2019), 49, https://www.ipcc.ch/site/assets/uploads/sites/4/2020/07/03_Technical-Summary-TS_V2.pdf.

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[15] Helen Harwatt et al., "Options for a Paris-Compliant Livestock Sector: Timeframes, Targets and Trajectories for Livestock Sector Emissions from a Survey of Climate Scientists" (Harvard Law School Animal Law and Policy Program, March 2024), <https://animal.law.harvard.edu/wp-content/uploads/Paris-compliant-livestock-report.pdf>.

[16] Shefali Sharma, is a Global Agriculture Campaigner with Greenpeace Germany