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16 August 2019

Dear Mr Lane,

Ref: G19-1022825/SL/ts – Climate Change Advert

Thank you for your letter of 31 July 2019 attaching a Complaint Notification regarding our educational advert about climate change. We note that you are treating the complaints, from the National Farmers Union of Scotland (“NFUS”) and an individual, as a formal investigation. We note also that after you have considered our response you will be drafting a recommendation to the ASA Council, which you will let us have sight of before submitting it to the Council, in order that we can comment on the draft.

The challenge summarised in the Complaint Notification is a very general assertion that the statement made in the ad is misleading. Therefore, in this letter we set out the evidence relied upon in making the statement in the ad, in order to demonstrate that it can be objectively substantiated and therefore is not misleading. If the complaints, which have not been copied to us, contain more specific challenges which we have not addressed in this letter, we would be grateful if you would provide us with an opportunity to respond before preparing your draft recommendation.

We note from your covering letter that you have asked us to respond to data cited by the NFUS, as well as a blog referred to by the individual complainant. We address these in section 4 of this response; however, if the complainants have made specific points about the data cited which we have not addressed here, we would be grateful for an opportunity to respond before you prepare your draft recommendation.

We note that you are dealing with this complaint under the “misleading advertising” rules, 3.1 and 3.7, as well as the rules on “environmental claims”, 11.1 and 11.3. We address both in this submission.

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1. The Climate Change Advert

For an advertisement on a phone-box to be effective it must contain minimal information, given the limitations on space and the time people will have to view it. The ad contains just enough to give the viewer a key piece of information, or challenge a preconception, and then encourages them to look into the issue in more detail for themselves.

Therefore, as with all our educational ads, the climate change ad provides people with a single nugget of information, prompting them to visit our website for more information about animal use and climate change, and for assistance to switch to a plant-based diet and to go vegan by rejecting all forms of animal use. Our website is clearly stated at the bottom of the ad, along with the statement “Visit www.goveganworld.com for your free Vegan Guide.”



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With this educational advertisement we draw attention to the widely ignored fact that using animals for food is a major contributor to climate change, more so even than transport.

The ad is focussed on the impact of behaviour on climate change, prompting the viewer to reconsider their own behaviour. The images used in the ad provide additional context: the upper image shows a cow in a field, to remind people that we are talking about using and consuming living-beings; the lower image shows rows of cars apparently in a traffic jam or very busy road traffic. The wording alongside these images is intended to challenge the general perception people have, that if they are concerned about climate change and are prepared to make changes in order to play their part in tackling it, they should consider things like reducing the amount of driving they do. In fact, the most feasible, effective action that most individuals can take to help tackle human-caused climate change is to stop consuming animal products.

Unfortunately, this fact is generally ignored, by politicians, the media and even by environmental campaigners. Even supposedly radical groups have so far refused to address the role of animal use when challenging people and governments to do more about climate change. It is therefore essential that this information is made available to the public.

We do not expect anyone who sees our educational advert to simply accept the statement as fact. We fully expect people to go to our website to read the facts and sources we are relying on in making this statement, and to do their own independent research to check what we have said. Indeed, they are encouraged to do so by way of the clear reference to our website.

It is not clear from what we have been told about the complaints if the complainants visited our website to review the information provided there. If they had done so they would have seen that we set out in detail the expert reports relied upon in producing the ad, including links to those reports, in order that they can judge for themselves if they agree with our use of them.

2. Our Website Page on Destroying Our Shared Environment

We have a section on our website on the topic of how we are destroying our shared environment, which can be viewed in full here: <https://goveganworld.com/destroying-our-shared-environment/>

Climate change is one of a number of destructive impacts of human behaviour discussed on that page, which is intended to show how the combined negative impact of human behaviour has devastated our environment, jeopardising everyone who depends upon it, with a particular focus on the role of using animals for food.

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On that page we have a sub-heading: *Animal Agriculture and Climate Change*, in which we note that: “*The production of food is an under-rated contributor to the problem. Using animals for food and other purposes is a leading cause of climate change, having a greater impact on climate change than all international transport combined.*”

We then provide links to the main expert reports we rely upon in making that statement, in order that people can review the reports for themselves to check that they agree with our interpretation of them.

3. Expert Reports Relied Upon

The data on the contribution of different sectors, countries, regions of the world and particular behaviours on climate change is vast and we all rely upon expert analysis of that data. Unfortunately, there is no single expert report that considers the contribution of using animals for food as compared to the contribution of transport on climate change. What we do have, however, is specific analysis by the United Nations Food and Agriculture Organisation (“FAO”), which looks at the whole cycle of using animals for food to determine the overall contribution it makes to climate change. We also have periodic reports from the International Governmental Panel on Climate Change (“IPCC”), which assesses the contribution of different sectors to climate change, including transport. Unfortunately the IPCC reports do not provide a figure for animal agriculture; they assess agriculture as a whole, along with land use change (as discussed in more detail in section 5 below), but they do not give a figure for animal agriculture itself, and so we must look to the FAO report for that.

FAO Tackling Climate Change Through Livestock

In 2013 the FAO produced the report *Tackling Climate Change Through Livestock* (Gerber et al, 2013), in which it presented its assessment of the overall contribution of animal agriculture to climate change.¹ The FAO 2013 report concludes that animal agriculture is responsible for 14.5% of all anthropogenic GHG’s, or 7.1 GtCO₂e (Gigatonnes of CO₂ equivalent).² The 2013 report is the most recent comprehensive analysis of the overall share of GHG’s attributable to animal agriculture. Assessment of the overall impact of animal agriculture is complex, as account must be taken not only of the GHG emissions from the animals themselves, from the processes involved in breeding, using, transporting and slaughtering them and of transporting the products made from them, but also of the vast areas of land that are used for grazing and to grow food that is fed to those animals, the fertiliser used on that land, the vast areas of

¹ Gerber, P.J., Steinfeld, H., Henderson, B., Mottet, A., Opio, C., Dijkman, J., Falcucci, A. & Tempio, G. 2013. *Tackling climate change through livestock – A global assessment of emissions and mitigation opportunities*. Food and Agriculture Organization of the United Nations (FAO), Rome. Available online at: <http://www.fao.org/3/a-i3437e.pdf> (Hereinafter referred to as the “FAO 2013 Report”)

² FAO 2013 Report, Overview page xii and section 3.5 page 15.

forestry cleared so that the land can be used for those purposes, GHG emissions caused by burning those areas of forest and the consequent loss of carbon capture potential from the removed trees. We discuss this in more detail in Section 5 below.

IPCC 4th and 5th Reports

The IPCC report referred to in the FAO 2013 report was the Third Working Group Report for the IPCC 4th Report from 2006³, in which the IPCC assessment of the contribution of transport to climate change was 13% of all anthropogenic GHG emissions.⁴ The total anthropogenic GHG emissions at that time were assessed at 49 GtCO₂e⁵, 13% of which is 6.37GtCO₂e, compared to the FAO's 7.1 GtCO₂e for animal agriculture. However, when comparisons are made between the FAO assessment of the GHG contribution by animal agriculture and the IPCC assessment of the GHG contribution of transport, it is often the later DEFRA IPCC report that is referred to, the IPCC 5th Report from 2014, which assessed the contribution of transport as 14% of all anthropogenic GHG, or 7.0 GtCO₂e.⁶ Whether we use the earlier or later assessment, either way the contribution from transport is less than the FAO assessment of the contribution of animal agriculture.

The comparison of 14% for transport compared to 14.5% for animal agriculture was relied upon in releasing our ad and referred to on our website, with links to the reports in order that people can assess for themselves if they agree with our use of them.

The comparison is also one that has been made by other credible organisations. For example, in 2014 Chatham House, The Royal Institute of International Affairs, stated in its report *Livestock – Climate Change's Forgotten Sector, Global Public Opinion on Meat and Dairy Consumption* (Bailey et al, 2014)⁷:

³ Confirmed in the FAO 2013 Report at p 106.

⁴ IPCC, 2007: Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA., p 27. (Hereinafter referred to as "IPCC AR4 WG3 Report"), available online at <https://www.ipcc.ch/report/ar4/wg3/>.

⁵ IPCC AR4 WG3 Report, p. 3.

⁶ IPCC, 2014: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, Chapter 11, Agriculture, Forestry and Other Land Use (AFOLU), p812-887, at p9 and 603. Available online: https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_full.pdf (Hereinafter referred to as "IPCC AR5 WG3").

⁷ *Livestock – Climate Change's Forgotten Sector Global Public Opinion on Meat and Dairy Consumption*, 2014. Available online at: <https://www.chathamhouse.org/sites/default/files/field/document/20141203LivestockClimateChangeForgottenSectorBaileyFroggattWellesleyFinal.pdf>. (Hereinafter referred to as the "Chatham House Report").

"Greenhouse gas emissions from the livestock sector are estimated to account for 14.5 per cent of the global total, more than direct emissions from the transport sector,"⁸ and

"Human consumption of meat and dairy products is a major driver of climate change. Greenhouse gas (GHG) emissions associated with their production are estimated to account for over 14.5 per cent of the global total. This is more than the emissions produced from powering all the world's road vehicles, trains, ships and aeroplanes combined⁹," and

"The UN Food and Agriculture Organization (FAO) estimates emissions attributable to the livestock sector amount to 7.1 GtCO₂e per annum. This includes emissions associated with activities along the value chain, including feed production, livestock production, slaughter, processing and retail; see FAO (2013). The IPCC estimates direct emissions from global transport amounted to 7.0 GtCO₂ e in 2010; see IPCC (2014)¹⁰."

Similarly, in the 2017 report *Climate Change and Livestock: Impacts, Adaptation, and Mitigation* (Rojas-Downing et al, 2017), the authors note that:

"Emissions from livestock production contribute more GHG to the atmosphere than the entire global transportation sector."¹¹

In making this statement they rely on the 2013 FAO report for the 14.5% contribution of animal agriculture. noting:

"The livestock sector's contribution of 14.5% of total anthropogenic GHG emissions was evaluated by Gerber et al. (2013) using a global livestock environmental assessment model (GLEAM). GLEAM performs an analysis of the emissions of global livestock production along supply chains." (Gerber et al is the 2013 FAO report).¹²

Although the media has not given this issue the attention it deserves, on the occasions when they have discussed the contribution of animal agriculture to climate change, they have made make this comparison between animal agriculture and transport. For example:

"Livestock are responsible for about 14.5 percent of global greenhouse gas emissions, according to the United Nations' Food and Agriculture Organisation

⁸ Chatham House Report p. 2.

⁹ Chatham House Report p. 4.

¹⁰ Chatham House Report p. 4 footnote 1.

¹¹ Rojas-Downing et al, (2017) *Climate Change and Livestock: Impacts, Adaptation, and Mitigation* (published in Climate Risk Management Volume 16, 2017, Pages 145-163), p 152. Available online at: <https://www.sciencedirect.com/science/article/pii/S221209631730027X>

¹² Rojas-Downing et al (2017) as above.

(FAO).....The U.N.'s Intergovernmental Panel on Climate Change says transport is responsible for 14 percent of emissions."¹³

The Exclusion of Fishes

We note that the 2013 FAO report considered only land animals used for food, or what it describes as "livestock". It did not consider fishes; it looked only at cows, buffalo, sheep, goats, pigs and chickens.¹⁴

Our ad concerns the contribution to climate change of using animals for food, and fishes are included within this category. Therefore, the GHG contribution of consuming fishes must be added to the FAO 14.5% to get the full figure for the GHG contribution of consuming animals.

Fishes are animals. They are classed as vertebrates¹⁵. The Encyclopaedia Britannica notes that:

*"Fish, any of approximately 34,000 species of vertebrate animals (phylum Chordata) found in the fresh and salt waters of the world. Living species range from the primitive jawless lampreys and hagfishes through the cartilaginous sharks, skates, and rays to the abundant and diverse bony fishes."*¹⁶

The impact of fishing on GHG emissions is largely ignored. In one study, *Fuel Use and Greenhouse Gas Emissions of World Fisheries*, (Parker et al, 2018), the authors concluded:

*"We estimate that fisheries consumed 40 billion litres of fuel in 2011 and generated a total of 179 million tonnes of CO₂-equivalent GHGs.....Fisheries are typically energy-intensive operations that produce the majority of their emissions directly from burning fossil fuels."*¹⁷

Recent reports indicate that we continue to underestimate the overall impact of fishing on GHG emissions. One of the authors of the 2018 study '*Reducing food's environmental impacts through producers and consumers*' (J. Poore and T. Nemecek, May 31, 2018) ¹⁸, noted that:

¹³ <https://www.reuters.com/article/us-global-livestock-emissions/fighting-global-warming-one-cow-belch-at-a-time-idUSKBN1K91CU>

¹⁴ FAO 2013 Report, Overview xii, and Section 4 Emissions by Species pg 23-43.

¹⁵ See for example: <https://www.thoughtco.com/the-six-basic-animal-groups-4096604>;
<https://www.britannica.com/animal/animal/Evolution-and-paleontology>

¹⁶ <https://www.britannica.com/animal/fish>

¹⁷ *Fuel Use and Greenhouse Gas Emissions of World Fisheries*, Nature Climate Change, Vol 8, April 2018, 333-337 at p 333. <http://www.ecomarres.com/downloads/GlobalFuel.pdf>

¹⁸ *Reducing food's environmental impacts through producers and consumers*, J. Poore and T. Nemecek, May 31, 2018, *Science* 360 (6392), 987-992.

<https://josephpoore.com/Science%20360%206392%20987%20-%20Accepted%20Manuscript.pdf>

“One surprise from the work was the large impact of freshwater fish farming, which provides two-thirds of such fish in Asia and 96% in Europe, and was thought to be relatively environmentally friendly. “You get all these fish depositing excreta and unconsumed feed down to the bottom of the pond, where there is barely any oxygen, making it the perfect environment for methane production,” a potent greenhouse gas, Poore said.¹⁹

A thorough study into the overall contribution of fishing to GHG emissions and climate change is sorely needed. For our purposes, we simply note that the 14.5% share attributed to animal agriculture does not include the consumption of fishes and so the contribution to climate change of consuming animals, including fishes, will be higher than 14.5%, making it a larger proportion still than that attributable to transport.

4. Climate Change, a Global Phenomenon

The statement in the ad is a general one, that eating animal foods contributes more to climate change than transport. Climate change is a global phenomenon. GHG emissions in one country or region will have an impact in terms of climate change in other parts of the world. It is in recognition of the fact that it is a global issue requiring international solutions, that the UN IPCC takes a leading role in data analysis and policy advice in this area.

Compiling international data on GHG emissions involves individual countries collating and submitting data for their own territorial area, following guidelines set down by the IPCC, which data is then collated into international reports in order that the required global perspective can be applied. While it is relevant for individual countries to discuss their own emissions from activities carried out within their territory, in order that they can better assess the impact of those activities, that is only one element of the overall picture.

We live in a global economy, with a global food system, and emissions figures from production activities within a country do not give us the full picture in terms of the GHG emissions attributable to our behaviour. Critically, they do not tell us anything about the GHG emissions or land use change generated in other countries to produce the products we import and consume here. This is one example of the necessity of viewing the causes and effects of climate change globally.

Most people recognise that climate change is a global phenomenon, and that when we talk of causes or contributors to climate change, we are talking in global terms. When we read or hear discussion about climate change, the default is that the discussion is about the global situation, unless it is made expressly clear that a more localised situation is being discussed. In our submission, in this context, it is quite clear that our ad is

¹⁹ <https://www.theguardian.com/environment/2018/may/31/avoiding-meat-and-dairy-is-single-biggest-way-to-reduce-your-impact-on-earth>;

addressing the contribution of consuming animal products globally, as compared to the contribution of all international travel. The name of our organisation Go Vegan World, which is clearly stated on the ads in our logo, also makes it very clear that our work pertains to the global issues of animal use.

Moreover, when reference is made to our website, which every viewer is encouraged to visit as the website is on the ad, it is made doubly clear that we are discussing an international situation. We discuss in detail on our page the impact of animal agriculture globally on our shared environment, and specifically the role of animal agriculture and transport internationally in terms of their contribution to climate change.

Data Referenced by Complainants

Complaint by National Farmers Union Scotland

The summary of the complaint by the National Farmers Union Scotland that was provided to us does not make any specific challenges to our ad; rather it is a general complaint that the ad is misleading and cannot be substantiated. However, in your covering letter you have said that the complainant referred to UK data and asked us to comment in response to that:

The first document referred to is the Department of Business, Energy and Industry Strategy 2017 UK Greenhouse Gas Emissions, Summary Page:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/776083/2017_Final_emissions_statistics_one_page_summary.pdf

The second document is the report this summary is taken from, the “2017 UK Greenhouse Gas Emissions, Final Figures, Statistical Release: National Statistics” 5 February 2019:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/776085/2017_Final_emissions_statistics_report.pdf. In that report it is made

clear that the geographical area covered is the UK. For example, on page 6 it is stated that: “*The geographic coverage of this report is UK only unless stated otherwise.*” On page 15 it is stated that: “*In 2017, 27 per cent of greenhouse gas emissions in the UK were estimated to be from the transport sector, 24 per cent from energy supply, 17 per cent from business, 15 per cent from the residential sector and 10 per cent from agriculture.*” (emphasis added)

You note that “*Their interpretation of the figures these links take you to is that transport was the largest emitting sector of UK greenhouse gas emissions in 2017.*”

As explained above, our ad is discussing the role of animal consumption globally as compared to transport internationally, and therefore it is global figures that are relevant, not UK specific figures. We believe most people viewing our ad will appreciate that.

However, even if you were to find that most viewers would understand the statement to be specific to the UK, the figures referred to by the complainants do not invalidate our

statement as those figures do not pertain to the overall impact on climate change of consuming animal products.

The UK figures appear to cover only direct emissions from using animals in the UK. This misses a large part of the picture in terms of the overall impact of using animals for food. This was noted in the report *How low can we go? An assessment of greenhouse gas emissions from the UK food system and the scope to reduce them by 2050* (Audsley et al, 2009) (hereinafter referred to as the “FCNR Report”) at page 8-9²⁰:

“UK greenhouse gas inventories indicate that 7% of UK emissions are attributable to UK agriculture made up of the equivalent of 51 Mt of CO₂e as carbon dioxide (11%), methane (37%) and nitrous oxide (53%). This is only a small proportion of total emissions attributable to the food system. There are also emissions from the manufacture of farm inputs, food processing, distribution, retailing and preparation. The manufacture of nitrogen fertilisers (registered in GHG inventories as an industrial emission) is the most important cause of direct emissions upstream of agriculture. About 900,000 tonnes of nitrogen as fertiliser is used in UK agriculture each year. Assuming 80% is ammonium nitrate and 20% is urea, the manufacture of this fertiliser emits the equivalent of 6 Mt of carbon dioxide, the equivalent of about 1% of the GHG emissions in the UK.”

Furthermore, our ad concerns the “contribution” of animal use for food on climate change; it is not specific to emissions. The UK figures do not take into account land-use associated with animal agriculture, a very significant element of the overall impact on climate change of using animals for food, as has been recognised in the FAO 2013 report. To assess the contribution to climate change of consuming animal products in the UK a full assessment would be required covering not only direct emissions from the animals but all related emissions within the farm gate and beyond. This would include the impact of producing food for those animals, using fertilizer to produce that food, clearing land to grow that food and for grazing, as well as the loss of carbon capture potential through using land for animal agriculture.

In terms of the land-use aspect, a recent report published by Harvard Law School considered land-use in the UK: *Eating Away at Climate Change With Negative Emissions, Repurposing UK Agricultural Land to Meet Climate Goals*, (Harawatt & Hayek, 2019).²¹ It noted that around half of the total land area of the UK is used for animal agriculture.²² This is made up of land used for grazing or pasture and land used

²⁰ Audsley, E., Brander, M., Chatterton, J., Murphy-Bokern, D., Webster, C., and Williams, A. (2009). *How low can we go? An assessment of greenhouse gas emissions from the UK food system and the scope to reduce them by 2050*. Cranfield University.

²¹ Harawatt, H & Hayek, MN, (2019) *Eating Away at Climate Change With Negative Emissions, Repurposing UK Agricultural Land to Meet Climate Goals*, Harvard Law School.

<https://animal.law.harvard.edu/wp-content/uploads/Eating-Away-at-Climate-Change-with-Negative-Emissions%E2%80%93Harawatt-Hayek.pdf>

²² <https://animal.law.harvard.edu/wp-content/uploads/Eating-Away-at-Climate-Change-with-Negative-Emissions%E2%80%93Harawatt-Hayek.pdf> Harawatt, H & Hayek, MN, (2019) *Eating Away at Climate Change With Negative Emissions, Repurposing UK Agricultural Land to Meet Climate Goals*, Harvard Law School. Page 7 footnote b: “The UK has a total land

to grow crops which are fed to animals. Around half of the available arable land in the UK is currently used to grow food that is fed to animals, rather than growing food for humans²³. The Harvard researchers concluded that if we used that land instead to grow more food for humans, we could feed everyone in the UK, become completely self-sufficient, and return all of the land currently used for grazing to native woodland. The carbon capture potential from that restored woodland would be highly significant. In the executive summary the authors note that “*reforesting land currently devoted to pasture results in CDR of 3,236 million tonnes CO₂, equal to offsetting 9 years of current UK CO₂ emissions.*” (CDR is Carbon Dioxide Removal).

The UK figures referred to by the complainants also do not account for the animal products consumed in the UK that are produced abroad. Assessment of the contribution to climate change of consuming animals in the UK would have to include the various elements of the supply cycle for products produced abroad, including land-use for grazing and for growing crops to feed animals, and the use of fertilizer.

When we look at the proportion of animal products we consume that have been imported from other countries, and indeed from outside the EU, it is clear that looking only at UK GHG figures missed a very large part of the picture. As noted by the Harvard researchers: “*Although agricultural emissions remain high, the UK is presently not self-sufficient in food production. UK farming currently provides less than 50% of food eaten in the UK (by value).*”²⁴

If we take some figures from the UK “meat” industry, we find the following data in terms of imports of animals and animal products consumed in the UK:

Cow’s Flesh

“The UK currently imports around 35 per cent of the beef and veal it consumes or around 250,000 tonnes annually. Imports have been fairly stable recently, although increasing somewhat in the last two years, partly due to the weak euro. The dominant supplier has always been Ireland, with a market share of almost 70 per cent. No other country accounts for more than eight per cent of UK imports. The EU supplies over 90 per cent of imports, with no single non-EU country supplying more than three per cent of the total.”

“Around three-quarters of imports are fresh/chilled beef, mostly boneless cuts, which achieve higher prices because little or no further processing is required and transport costs are lower. Carcasses account for less than a fifth of fresh/chilled imports. As outlined above, some imports will be of UK beef (mainly cow beef) returning, following processing in Ireland or the Netherlands.”

area of 241,930 km². Animal agriculture occupies 115,900 km², which is 48% of the total (115,900 km² / 241,930 km² = 0.479).”

²³ Harawatt, H & Hayek, MN, (2019) *Eating Away at Climate Change With Negative Emissions, Repurposing UK Agricultural Land to Meet Climate Goals*, Harvard Law School. Page 7.

²⁴ Harawatt, H & Hayek, MN, (2019) *Eating Away at Climate Change With Negative Emissions, Repurposing UK Agricultural Land to Meet Climate Goals*, Harvard Law School. Page 4

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“The remaining 25 per cent of imports are frozen consignments, also dominated by boneless cuts.”²⁵

Pigs’ Flesh

“The UK is a net importer of pig meat, currently importing around 60 per cent of all the pork it consumes. The volume of these imports stood at 968,000 tonnes in 2015. Import levels have fluctuated slightly over recent years – since falling back in 2012, they have been increasing steadily year on year. Denmark is the dominant supplier, accounting for over a quarter of all UK pork imports. Together with Germany and the Netherlands, they account for 60 per cent of imports. The EU supplies virtually all the pork imported into the UK, due to the high import tariffs on pork from elsewhere.”

“On top of this, the UK imports substantial quantities of bacon, gammon, ham, sausages and other processed pig meat products. These are mostly derived from cuts for which domestic demand exceeds supply.”²⁶

Sheeps’ Flesh

“The UK currently imports around a third of the sheep meat it consumes, or around 100,000 tonnes annually. Imports have been fairly stable recently. The dominant supplier has always been New Zealand, with a market share of over 70 per cent. Australia is the second largest supplier, accounting for around 15 per cent. This largely reflects the different seasonality of sheep meat production in the Southern Hemisphere, which helps to ensure supplies are available throughout the year. The EU supplies around 10 per cent of imports.”

“Over 95 per cent of imports are in the form of cuts, mostly bone-in, which enables them to be targeted at the best value market for that cut (e.g. the UK for legs). Carcasses account for less than five per cent of imports.”

“The split between fresh and frozen product is more even, with between 55 per cent and 60 per cent coming in the form of frozen product and the remainder being fresh.”²⁷

Chickens’ Flesh and Eggs

Data from the Agriculture and Horticulture Development Board (“AHDB”) indicates that we import around 50% of chicken “meat” to the UK, and about 20% of the eggs consumed here.²⁸

Fishes’ Flesh

²⁵ <https://britishmeatindustry.org/industry/imports-exports/beef-veal/>

²⁶ <https://britishmeatindustry.org/industry/imports-exports/pigmeat>

²⁷ <https://britishmeatindustry.org/industry/imports-exports/sheepmeat/>

²⁸ <https://pork.ahdb.org.uk/media/275384/poultry-pocketbook-2018.pdf>

In addition, around 70-80% of the seafood consumed in the UK comes from overseas.²⁹

Cows', Goats' and Sheeps' Milk

We also import a significant amount of cheese and other dairy products, according to data from the AHDB.³⁰

Clearly there would be some offsetting, in that we also export some of the food produced in the UK, so the GHG's resulting from production could not all be said to be related to consumption in the UK. However, we are a net importer of animal products, importing far more than we export, as confirmed by DEFRA.³¹

In the FCNR report the authors noted:

“The UK is a net importer of many foods and emissions from the production of imports are not reflected in UK inventories. Previous analyses indicate that overall, UK agriculture, fertiliser production, and livestock agriculture in near-neighbouring countries for export to the UK is responsible for the emission of about 62 Mt carbon dioxide per year, equivalent of 10% of emissions attributed to the UK in inventories. Land use change in other countries is also excluded from national emissions inventories. So it can be concluded that the role of the UK food system in global greenhouse gas emissions is far greater than that indicated by UK emissions attributable to UK agriculture.”³²

In terms of emissions, as a large amount of the imports of animal products to the UK come from Ireland, it is worth noting that a recent publication from Eurostat finds that 30.7% of all greenhouse gases emitted in Ireland come from the agricultural sector, making it the highest percentage of any EU country.³³

As a significant amount of animal products are imported to the UK from the EU it is worth noting the position there. The study *'Impacts of European livestock production: nitrogen, sulphur, phosphorus and greenhouse gas emissions, land-use, water eutrophication and biodiversity'*, (Leip et al, 2015) found that:

²⁹ <https://www.seafish.org/article/import-and-export>

³⁰ <https://dairy.ahdb.org.uk/market-information/processing-trade/imports-exports/uk-dairy-trade-balance/#.XQa1MrxKiM8>

³¹ <https://www.gov.uk/government/publications/food-statistics-pocketbook-2017/food-statistics-in-your-pocket-2017-global-and-uk-supply>, see table 3.4.

³² Audsley, E., Brander, M., Chatterton, J., Murphy-Bokern, D., Webster, C., and Williams, A. (2009). *How low can we go? An assessment of greenhouse gas emissions from the UK food system and the scope to reduce them by 2050*. Page 9

³³ *Agriculture - greenhouse gas emission statistics*, p 4. (These statistics are for production within the countries mentioned, they do not account for GHG emissions generated in another country for products consumed at home. They also do not account for land use change, see p 1 table 1, “excluding land use change and forestry” and p3-4). Available online at <https://ec.europa.eu/eurostat/statistics-explained/pdfscache/29569.pdf>

“The direct emissions of GHGs from the agriculture sector itself in 2003–2005 was 483 Tg CO_{2eq} yr, contributing about 10% of total anthropogenic GHG emissions in the European Union. However, we estimated emissions of more than twice that amount when including associated emissions that agriculture causes in other sectors, such as energy, industry, or land use and land use change. Overall, 81% of total European agricultural emissions (including associated emissions and emissions from outside of the EU27) were caused by livestock production.”³⁴

This indicates that when land-use is taken into account the proportion of overall EU GHG emissions allocated to agriculture is not dissimilar to the proportion allocated to agriculture globally, as discussed in section 5. It is also notable that they find that animal agriculture accounts for 81% of all agriculture related emissions in the EU, which is the same proportion of overall agriculture related emissions the FAO attributed to animal agriculture globally.

Animal products imported to the UK do not all come from Europe and any assessment of the overall contribution of consuming animals here must account for the UK's share of emissions and land use beyond Europe. Vast areas of forestry have been cleared to make way for animal agriculture globally, for example as much as 90% of the Amazon has been cleared due to animal agriculture³⁵, much of this to satisfy demand for animal products in richer countries including the UK. The Harvard researchers noted:

“Agriculture is the biggest land user globally, with animal agriculture occupying the majority (83%) of this in exchange for 18% of calories and 37% of protein delivered to the food system for global consumption. Since 1960, animal agriculture has caused 65% of land use change globally, to grow feed crops for farmed animals, and to house farmed animals (in pasture and feedlots), at the expense of native forest, grasslands or savannah”.³⁶

This has been highlighted again recently, for example with The Guardian reporting that:

“Growing international demand for beef has become a key driver in the destruction of the Amazon rainforest, with new figures seen by our team revealing the full extent of deforestation directly linked to a handful of major food corporations. Beef linked to deforestation is exported globally, including to key markets in the east Asia and Europe.

³⁴ *Impacts of European livestock production: nitrogen, sulphur, phosphorus and greenhouse gas emissions, land-use, water eutrophication and biodiversity*, Adrian Leip et al 2015 Environ. Res. Lett. 10 (2015) p6. Available online: <https://iopscience.iop.org/article/10.1088/1748-9326/10/11/115004/pdf>

³⁵ A number of reports support this, for example the World Bank Working Paper No. 22, *Causes of Deforestation of the Brazilian Amazon*, <http://documents.worldbank.org/curated/en/758171468768828889/pdf/277150PAPER0wbwp0no1022.pdf>

³⁶ Harwatt and Hayek (2019) Page 2-3

An investigation by Trase has uncovered how up to 5,800 sq km of forest is being felled in the Amazon and other areas annually to be converted into pasture used for cattle farming, with livestock from deforested areas found to be supplying abattoirs producing beef for global markets.”³⁷

Vast areas of land are also used to grow food that is fed to animals. The UK is a net importer of the food we feed to the animals used here, as confirmed by DEFRA statistics.³⁸

While the FCNR Report may not have accounted for all elements in the food production process in its estimate of the impact of food consumption in the UK, in terms of the elements they did consider they concluded:

“We estimate that the supply of food for the UK results in a direct emission of 152 Mt CO₂e with a 95% confidence interval of 217 and 289 Mt CO₂e. Total UK consumption emissions are estimated to be about 748 Mt CO₂e (excluding land use change). This means that direct emissions from the UK food system are about 20% of the currently estimated consumption emissions... Of these, about 58% arise from the production of animal products which account for just over 30% of consumer energy intake. A further 102 Mt CO₂e from land use change is attributable to UK food. When our estimate of land use change emissions is considered, food consumption emissions rise to 30% of total consumption emissions.”³⁹

“This study is perhaps the first that estimates the proportion of global land use change emissions (mainly deforestation) attributable to the UK food supply chain. When land use change emissions are considered, about a half of UK food chain emissions arise outside the UK. We conclude that the direct and indirect effect of the supply of food for the UK as a contributor to global land use change pressures is a significant factor in UK consumption emissions. It accounts for 40% of the emissions embedded in food and 12% of emissions embedded in UK consumption...Deforestation is a larger source of emissions than agriculture, and expansion of agriculture is the biggest driver. Our estimate of emissions attributed to the UK is broadly in line with the role of the UK in the global food economy and the UK food system is well connected to global markets. Our analysis is based on the proportion of global land use attributable to the supply chain on the basis of average global yields.”⁴⁰

³⁷ <https://www.theguardian.com/environment/2019/jul/02/revealed-amazon-deforestation-driven-global-greed-meat-brazil>

³⁸ <https://www.gov.uk/government/publications/food-statistics-pocketbook-2017/food-statistics-in-your-pocket-2017-global-and-uk-supply>, see table 3.4.

³⁹ Audsley, E., Brander, M., Chatterton, J., Murphy-Bokern, D., Webster, C., and Williams, A. (2009). *How low can we go? An assessment of greenhouse gas emissions from the UK food system and the scope to reduce them by 2050*. Page 64

⁴⁰ Audsley, E., Brander, M., Chatterton, J., Murphy-Bokern, D., Webster, C., and Williams, A. (2009). *How low can we go? An assessment of greenhouse gas emissions from the UK food system and the scope to reduce them by 2050*. Page 64

The complainants have also referred to a Scottish publication, which “*provides estimates of greenhouse gas emissions in Scotland for the years 1990 to 2016*”.

<https://www.gov.scot/publications/scottish-greenhouse-gas-emissions-2016/> You note that: “*They conclude that transport in Scotland is the biggest contributor to climate change and not as claimed in the poster.*”

The same points we have made above in relation to the UK statistics apply equally to Scottish emissions data. These figures cover only emissions in Scotland, they do not account for emissions or the overall impact on climate change from *consuming* animals in Scotland. We do not appear to have specific figures for imports of animal products to Scotland, only UK wide data. For example, Quality Meat Scotland refers to UK data on imports when discussing imports in its meat industry reports:

https://www.qmscotland.co.uk/sites/default/files/scottish_red_meat_industry_profile_2018_edition.pdf The points made above regarding the amount of animal products we import and the food imported to feed animals used and killed here, apply to Scotland as to the UK.

You note that “*They also make the point that not all emissions from agriculture will be associated with livestock products.*” As discussed in Sections 3 and 5 of this submission, we do not rely upon figures for emissions from agriculture as a whole; we rely upon the specific assessment of the impact of animal agriculture produced by the FAO in 2013.

In summary, it is our assertion that the ad is to be read as referring to the global position and most people will view it as such. However, even if the complainant were correct that it was to be read as specific to the UK, the data they refer to covers only direct emissions from using animals in the UK, it does not show what the overall contribution of consuming animals is; that would require a full lifecycle assessment of the impact of animal products consumed here wherever they were produced.

Complaint by Member of the Public

You have advised that the complainant member of the public has referred to a blog in which the writer claimed that “*agriculture contributes about 10-13% of global greenhouse gas emissions, coming second behind transport.*” You provided the following link for this blog. <https://www.wri.org/blog/2014/05/everything-you-need-know-about-agricultural-emissions>.

We see that the blog was published in 2014 by Stephen Russell. It appears that he is no longer working with WRI and there is no information on their site regarding his qualifications. Indeed, the website www.wri.org does not provide a lot of information regarding the role or make up of WRI itself. It states under the “About” section that it is a research organization. It is not an organisation that is well known to us.

In his blog Stephen Russell stated: “*Farms emitted 6 billion tonnes of GHGs in 2011, or about 13 percent of total global emissions. That makes the agricultural sector the world’s second-largest emitter, after the energy sector (which includes emissions from power generation and transport).*” He appears to be talking about agriculture, not animal agriculture. Unfortunately, we have not been able to access the source apparently

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footnoted in support of this statement. That link takes us to another WRI page and we cannot see anything on that page that relates to the 13% claim. As he did not state in the text what he was citing in support of his statement we are left with an unsupported sentence in a blog post from 2014 by someone who no longer works with WRI. Mr Russell made no reference in his blog to the FAO 2013 report, which found that animal agriculture contributed 7.1 GtCO_{2e}.

We note that the same topic has recently been updated on the WRI website and now states: *“About 23% of global human-caused greenhouse gas emissions come from agriculture, forestry and other land uses”*⁴¹ This is in line with the IPCC assessment of the GHG contribution of agriculture and land use, as discussed in section 5.

5. Further Detail on Expert Reports

It may be that the information in sections 1-4 is sufficient to address the complainants' assertion that the statement made in our ad is misleading, as we have demonstrated that it can be substantiated. However, in this section we set out additional detail about the international reports we have referred to in case it should be of assistance.

As set out in section 3 above, the comparison between the 14% for transport and 14.5% for animal agriculture comes from an IPCC report and an FAO report. In terms of the status of the FAO and IPCC reports, their reliability and credibility, we note the following.

FAO

The FAO *“is a specialized agency of the United Nations that leads international efforts to defeat hunger.....An intergovernmental organization, FAO has 194 Member Nations, two associate members and one member organization, the European Union. Its employees come from various cultural backgrounds and are experts in the multiple fields of activity FAO engages in.”*⁴²

The FAO has various departments including Agriculture and Consumer Protection (formerly Animal Production and Health)⁴³ and the Climate, Biodiversity, Land and Water Department.⁴⁴ They employ experts in relevant fields and for each report they publish they provide full details of the expertise involved.⁴⁵

The 2013 report referred to above uses analysis conducted at the FAO's Animal Production and Health Division.

⁴¹ https://www.wri.org/blog/2019/08/7-things-know-about-ipcc-special-report-land-and-climate?fbclid=IwAR3ZKAy4Odtj9JMRPjWyO00x2_-79f6pIMByy0tAqOuz8oh9Swi7rX_p8wk at page 2 of lodged copy

⁴² <http://www.fao.org/about/who-we-are/en/>

⁴³ <http://www.fao.org/agriculture-consumer-protection-department/en/>

⁴⁴ <http://www.fao.org/about/who-we-are/departments/climate-biodiversity-land-water/en/>

⁴⁵ <http://www.fao.org/about/who-we-are/en/>

IPCC

The IPCC is the United Nations body for assessing the science related to climate change. The following information is provided on its website:

“As an intergovernmental body jointly established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), the Intergovernmental Panel on Climate Change (IPCC) has provided policymakers with the most authoritative and objective scientific and technical assessments in this field. Beginning in 1990, this series of IPCC Assessment Reports, Special Reports, Technical Papers, Methodology Reports and other products have become standard works of reference.”

“The IPCC was created to provide policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options.”

“Through its assessments, the IPCC determines the state of knowledge on climate change. It identifies where there is agreement in the scientific community on topics related to climate change, and where further research is needed. The reports are drafted and reviewed in several stages, thus guaranteeing objectivity and transparency. The IPCC does not conduct its own research.”

“IPCC reports are neutral, policy-relevant but not policy-prescriptive. The assessment reports are a key input into the international negotiations to tackle climate change. Created by the United Nations Environment Programme (UN Environment) and the World Meteorological Organization (WMO) in 1988, the IPCC has 195 Member countries.”⁴⁶

As discussed in section 2, the IPCC reports do not provide an assessment of the contribution of animal agriculture as a sector. The IPCC takes the approach of providing a combined figure for the contribution of all food production, in a sector they call Agriculture, Forestry and Other Land Use (“AFOLU”). The figures they provide for this sector are of some relevance in assessing the contribution of animal agriculture as compared to transport, as discussed below, but as the IPCC does not give a figure for animal agriculture itself we must go to the FAO reports that look specifically at the impact of animal use for that figure.

Timescales

Collating, analysing and reporting on data related to climate change takes time. This explains the fact that there are a number of years between publication of international climate change reports, and the data relied upon in expert reports often comes from a number of years prior to the date of the report. For example, the IPCC has produced comprehensive assessment reports on climate change in 1992, 1995, 2001, 2007, 2014, and the next is due in 2022. In each case these Synthesis reports draw on a number of

⁴⁶ <https://www.ipcc.ch/>

underlying working group reports produced slightly earlier and use data from a number of years earlier. The latest comprehensive IPCC report we have is the 5th Assessment from 2014, which uses data from 1970 – 2010.

Comparing Animal Use to Transport

The FAO has produced two well-known reports looking at the overall impact of animal agriculture on climate change.

The first was produced in 2006, '*Livestock's Long Shadow, environmental issues and options*'.⁴⁷ In the 2006 report, for the first time real urgent attention was drawn to the need to address animal agriculture's contribution to environmental degradation. In the Preface Samuel Jutzi, then Director of the Animal Production and Health Division of the FAO, noted:

"The in-depth assessment presented in this document of the various significant impacts of the world's livestock sector on the environment is deliberately termed Livestock's long shadow so as to help raise the attention of both the technical and the general public to the very substantial contribution of animal agriculture to climate change and air pollution, to land, soil and water degradation and to the reduction of biodiversity."⁴⁸

In the Executive Summary they noted:

"This report aims to assess the full impact of the livestock sector on environmental problems, along with potential technical and policy approaches to mitigation. The assessment is based on the most recent and complete data available, taking into account direct impacts, along with the impacts of feed crop agriculture required for livestock production. The livestock sector emerges as one of the top two or three most significant contributors to the most serious environmental problems, at every scale from local to global. The findings of this report suggest that it should be a major policy focus when dealing with problems of land degradation, climate change and air pollution, water shortage and water pollution and loss of biodiversity."⁴⁹

The FAO report was ground-breaking in drawing attention to the role of animal agriculture in destroying our environment. A report drawing attention to the role of an industry in this way was bound to be controversial and to attract harsh criticism from many with an interest in the animal using industries, although the FAO was at pains to point out that the report was "*not done simply to blame the rapidly growing and intensifying global livestock sector for severely damaging the environment but to encourage decisive measures at the technical and political levels for mitigating such damage.*"⁵⁰

⁴⁷ *Livestock's Long Shadow, environmental issues and options*, 2006. Available online at: <http://www.fao.org/3/a0701e/a0701e.pdf> (Hereinafter referred to as "FAO 2006 Report").

⁴⁸ FAO 2006 Report p iii.

⁴⁹ FAO 2006 Report p xx.

⁵⁰ FAO 2006 Report p iii.

The Executive Summary discussed the impact of animal agriculture in terms of various environmental consequences. In relation to climate change they said:

“The livestock sector is a major player, responsible for 18 percent of greenhouse gas emissions measured in CO2 equivalent. This is a higher share than transport.”⁵¹

The 18% share of all anthropogenic GHG at that time equated to 7.1 GtCO₂e, out of a total amount of anthropogenic GHG's of 40GtCO₂e.⁵²

In Chapter 3 the FAO explained in detail the various aspects of animal agriculture that contribute to GHG and so climate change. In section 3.4 the FAO noted:

“Overall, livestock activities contribute an estimated 18 percent to total anthropogenic greenhouse gas emissions from the five major sectors for greenhouse gas reporting: energy, industry, waste, land use, land use change and forestry (LULUCF) and agriculture.”⁵³ (LULUCF is Land Use, Land Use Change and Forestry).

They further noted that of all agriculture related emissions, animal agriculture accounts for around 80%: *“For the agriculture sector alone, livestock constitute nearly 80 percent of all emissions”.*⁵⁴

As with any area involving assessment of data, where decisions are made as to what to include or exclude, some did not agree with the FAO's conclusions. In many cases criticism came from those with vested interests in the animal using industries, which is to be expected.

Specific criticism was made of the FAO's express statement that animal agriculture contributed more to climate change than transport. The criticism was that while the FAO had assessed a number of elements that go into animal agriculture, the IPCC figure for transport used for the comparison included only direct emissions from transport. The Telegraph reported in 2010 under the headline, *“UN Admits Flaw in Report on Meat and Climate Change”* that *“one of the authors of the report has admitted an American scientist has identified a flaw in its comparison with the impact of transport emissions.”* However, when we look at the detail it is not so much someone at the FAO accepting a flaw in its analysis, as accepting that in the case of animal agriculture they had assessed GHG emissions from various elements of the animal agriculture system, whereas for transport the IPCC included only direct emissions.⁵⁵

⁵¹ FAO 2006 Report p xxi.

⁵² FAO 2006 Report p 113, table 3.12.

⁵³ FAO 2006 Report p 112

⁵⁴ FAO 2006 Report p 112

⁵⁵ <https://www.telegraph.co.uk/news/earth/environment/climatechange/7509978/UN-admits-flaw-in-report-on-meat-and-climate-change.html>

It is notable that when the FAO produced a new report on the contribution of animal agriculture to environmental destruction, in 2013, it did not seek to distance itself from its previous report in any way. It simply pointed out that up-to-date data and a new method of analysing the data had been used and so no direct comparison between the two reports should be made. While the % share of GHG emissions attributable to animal agriculture was then found to be 14.5% as opposed to 18%, the volume of GHG attributed to animal agriculture was the same as in the 2006 report. What had changed was the overall volume of anthropogenic GHG emissions, which had increased from 40 to 49 GtCO₂e, reducing the % share contributed by animal agriculture.

In releasing its 2013 report the FAO noted:

*“Total emissions from global livestock: 7.1 Gigatonnes of Co₂-equiv per year, representing 14.5 percent of all anthropogenic GHG emissions. This figure is in line with the FAO’s previous assessment, *Livestock’s Long Shadow*, published in 2006, although it is based on a much more detailed analysis and improved data sets. The two figures cannot be accurately compared, as reference periods and sources differ.”⁵⁶*

The FAO did not disown its earlier report, in which a contribution of 18% had been assigned to animal agriculture, they pointed out that the data was different and the method of analysis had changed, so that it was not appropriate to compare the two. Although in 2013 the FAO did not itself make a comparison between the proportion of GHG attributable to animal agriculture and that attributable to transport, as it had expressly done in 2006, journalists reporting at the time pointed out that the revised share attributed to animal agriculture, of 14.5% rather than 18%, still put it ahead of transport.⁵⁷

While the criticism of the 2006 FAO report referred to above was not in fact criticism of the FAO report, but of the drawing of a comparison between the figure it attributed to animal agriculture and the direct emissions figure for transport, criticism *has* been made of the 2006 FAO report itself, but by those who say it vastly *underestimated* the contribution of animal agriculture to climate change.

The most well-known critique of the FAO’s 18% estimated contribution for animal agriculture is the 2009 Worldwatch Institute study, in which the authors reviewed the FAO’s assessment and concluded that it had vastly underestimated the contribution of animal agriculture.⁵⁸ They found that the contribution was as high as 51%. We have

⁵⁶ <http://www.fao.org/news/story/en/item/197623/icode/>

⁵⁷ For example: <https://www.theguardian.com/environment/world-on-a-plate/2013/sep/27/environment-food-ipcc-emissions-greenhouse-gas-livestock-vegetarian-meat> (The 13% referred to in this article from the third IPCC report, released in 2006, which we referred to in Section 2 above.)

⁵⁸ Goodland, R. and Anhang, J., “*Livestock and Climate Change: What if the key actors in climate change were pigs, chickens and cows?*” (2009). Worldwatch November/December 2009, Worldwatch Institute, pp. 10–19, see introductory paragraphs on p 11: “*But our analysis shows that livestock and their byproducts actually account for at least 32,564 million tons of CO₂e per year, or 51 percent of annual worldwide GHG emissions.*” That finding is then

included this study on our website with a link to the report as it is referred to by many, in order that people have this alternative perspective available for review.

One of the authors of that report, an environmental advisor to the World Bank, explained how they had arrived at such a high figure in comparison to the FAO:

“The key difference between the 18 percent and 51 percent figures is that the latter accounts for how exponential growth in livestock production (now more than 60 billion land animals per year), accompanied by large scale deforestation and forest-burning, have caused a dramatic decline in the earth’s photosynthetic capacity, along with large and accelerating increases in volatilization of soil carbon.”⁵⁹

This is explained further in the Worldwatch report:

“The FAO counts emissions attributable to changes in land use due to the introduction of livestock, but only the relatively small amount of GHGs from changes each year. Strangely, it does not count the much larger amount of annual GHG reductions from photosynthesis that are foregone by using 26 percent of land worldwide for grazing livestock and 33 percent of arable land for growing feed, rather than allowing it to regenerate forest. By itself, leaving a significant amount of tropical land used for grazing livestock and growing feed to regenerate as forest could potentially mitigate as much as half (or even more) of all anthropogenic GHGs. A key reason why this is not happening is that reclaiming land used for grazing livestock and growing feed is not yet a priority; on the contrary, feed production and grazing have been fast expanding into forest.”⁶⁰

The Worldwatch report identifies a number of other issues with the approach taken by the FAO, leading to a vast underestimate of the contribution of animal agriculture to climate change in their view, but the under-estimation of the significance of the clearance of land to grow food for animals and for grazing land, and the consequent loss of photosynthesis or carbon capture potential, is perhaps the main issue identified by these experts.

To give an idea of the scale of land use for animal agriculture, the FAO in 2012 found that: *“Twenty-six percent of the Planet’s ice-free land is used for livestock grazing and 33 percent of croplands are used for livestock feed production.”⁶¹* Around 80% of all agricultural land is used for animal agriculture, either for grazing land or for growing food

supported in the remaining pages of the study.

<https://www.worldwatch.org/files/pdf/Livestock%20and%20Climate%20Change.pdf>

⁵⁹ <https://bittman.blogs.nytimes.com/2012/07/11/fao-yields-to-meat-industry-pressure-on-climate-change/>

⁶⁰ Goodland, R. and Anhang, J., *“Livestock and Climate Change: What if the key actors in climate change were pigs, chickens and cows?”* (2009). Worldwatch November/December 2009, Worldwatch Institute, pp. 10–19, at p 13.

⁶¹ <http://www.fao.org/3/ar591e/ar591e.pdf>

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to feed to animals.⁶² In terms of forest clearance, in the Amazon alone animal agriculture is responsible for up to 90% of clearance.⁶³

The inefficiency of using animals for food in terms of the amount of land required as compared to the amount of land used when we grow food to feed directly to humans has been highlighted in a number of studies, most recently by the Harvard study looking at the potential for reforestation in the UK referred to in section 4 above.

Another critique of the FAO approach as underestimating the impact of animal agriculture, noted that the FAO used a very small number for the number of animals used for food in its 2006 report. They also criticised the failure to account for animal respiration and a vast understatement of the potency of methane through using a timeframe of 100 years compared to 20 years. In terms of the number of animals accounted for, they noted:

“In LCC (the Worldwatch report), the World Bank posited that there were some 50 billion livestock animals worldwide, while the FAO in LS (FAO 2006 Report) used a figure of only 21.7 billion (despite the fact other reports from within the FAO itself had suggested the number was much higher, and other governmental agencies had estimated the number at around 50 billion). Soon after publication of LS (FAO 2006 Report), the FAO effectively conceded 21.7 billion was erroneous when their own website listed the number at 56 billion—a figure 258% greater than used in LS (FAO 2006 Report), and 10% greater than used in LCC (Worldwatch Report). More recent estimates suggest the planet currently homes 70 billion livestock animals.”⁶⁴

Since publication of the 2013 FAO report, the same criticism has been made as was made following the 2006 report, that a comparison between the 14.5% proportion attributed to animal agriculture by the FAO and the 14% attributed to transport by the IPCC is not appropriate as the former looks at the cycle of animal agriculture and the other only at direct emissions.⁶⁵ While two FAO researchers have publicly stated that there is a mismatch between the transport and animal agriculture figures, in that one looks only at direct GHG emissions and the other at a cycle of emissions, they did not make any suggestion as to the amount of additional GHG emissions that would be allocated to transport if indirect emissions were included.

⁶² *“Close to 70 percent of the planet’s agricultural land is used for animal pasture. Another 10 percent is used to grow grains to feed livestock (for meat and dairy). Producing beef is much more resource-intensive than producing pork or chicken, requiring roughly three to five times as much land to generate the same amount of protein. Beef production alone uses about three fifths of global farmland but yields less than 5 percent of the world’s protein.”*

<http://www.worldwatch.org/peak-meat-production-strains-land-and-water-resources-1>

⁶³ A number of reports support this, for example the World Bank Working Paper No. 22, *Causes of Deforestation of the Brazilian Amazon*, <http://documents.worldbank.org/curated/en/758171468768828889/pdf/277150PAPER0wbwp0no1022.pdf>

⁶⁴ <https://www.new-harvest.org/the-world-s-leading-driver-of-climate-change-animal-agriculture>

⁶⁵ <http://news.trust.org/item/20180918083629-d2wf0>

This raises the question what indirect emissions might be included in transport. While the animal agriculture system has various elements that have huge impact in terms of GHG which would not be accounted for if the whole process was not looked at, in particular land clearance for grazing and to grow food to feed to animals who are later killed and eaten, it is not clear that transport has any equivalent vast GHG contributors that are missed by looking only at its direct outputs.

As with any area involving analysis of data and decisions about the parameters to be applied to different categories, there will no doubt be room for discussion among scientists and experts regarding where the lines ought to be drawn and what direct and indirect emissions ought to be allocated to what industry. As noted at the outset, assessment of climate change data is specialist and complex and we all rely on expert reports in this area. The IPCC is the leading organisation with responsibility for assessment and analysis of the available data, setting guidelines for how GHG data is to be collated and submitted, and making decisions as to where the parameters for different industries ought to be drawn. Had the IPCC considered that significant indirect emissions from transport ought to be allocated to that sector it presumably would have done so. It did not do so.

By way of contrast, the IPCC has increasingly moved to collate agriculture with land use change in order to better understand the overall impact of food production. In the III Working Group Report for the 5th IPCC Assessment, Chapter 11, they noted:

“In the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (SAR) (IPCC, 1996) and in the IPCC Fourth Assessment Report (AR4) (IPCC, 2007a), agricultural and forestry mitigation were dealt with in separate chapters. In the IPCC Third Assessment Report (TAR) (IPCC, 2001), there were no separate sectoral chapters on either agriculture or forestry. In the IPCC Fifth Assessment Report (AR5), for the first time, the vast majority of the terrestrial land surface, comprising agriculture, forestry and other land use (AFOLU) (IPCC, 2006), is considered together in a single chapter, though settlements (which are important, with urban areas forecasted to triple in size from 2000 global extent by 2030; Section 12.2), are dealt with in Chapter 12. This approach ensures that all land-based mitigation options can be considered together; it minimizes the risk of double counting or inconsistent treatment (e.g., different assumptions about available land) between different land categories, and allows the consideration of systemic feedbacks between mitigation options related to the land surface (Section 11.4). Considering AFOLU in a single chapter allows phenomena common across land-use types, such as competition for land (Smith et al., 2010; Lambin and Meyfroidt, 2011) and water (e.g., Jackson et al., 2007), co-benefits (Sandor et al., 2002; Venter et al., 2009), adverse side-effects (Section 11.7) and interactions between mitigation and adaptation (Section 11.5) to be considered consistently.”⁶⁶

⁶⁶ IPCC AR5 WG3 at p818.

Given the available expert reports assessing the impact on climate change of animal agriculture and of transport, it is our submission that it is entirely reasonable to rely upon the FAO 2013 report on animal agriculture and the IPCC report for transport.

As with the 2006 report, criticism has been levelled at the 2013 FAO report for vastly *underestimating* the contribution of animal agriculture to climate change. It can be seen from the FAO 2013 report itself that the authors did not include in their analysis all land clearance for animal agriculture. They noted that:

*“Land-use change is a highly complex process. It results from the interaction of diverse drivers which may be direct or indirect and can involve numerous transitions, such as clearing, grazing, cultivation, abandonment and secondary forest re-growth. From a climate change point of view, deforestation is the land-use change process generating most GHG emissions (IPCC, 2007). The debate surrounding the key drivers of deforestation is ongoing and so is the attribution of GHG emissions to these drivers. In the current version of GLEAM, land-use changes are considered as the transformation of forest to arable land for feed crops and that of forest to pasture. Emissions are generally quantified according to IPCC Tier I guidelines (IPCC, 2006). **The analysis of the expansion of feed crops was limited to soybean production in Brazil and Argentina.**”⁶⁷*
(emphasis added)

Emissions from deforestation associated with pasture expansion were also only quantified for Latin America.”⁶⁸ They also noted: *“No emissions are allocated to slaughter byproducts (e.g. offal, skins, blood) since the use of by-products and their value are subject to high spatial and temporal variability.”⁶⁹*

In the FAO 2013 report they set out in detail the differences between the approaches taken in 2006 and 2013 as they see it, noting for example, that:

“The Livestock’s long shadow assessment includes GHG emissions related to the production of feed (including pasture) fed to all animal species (for a total of 2.7 gigatonnes CO₂-eq), whereas this report only accounts for feed materials fed to the studied species, i.e. poultry, cattle, pig, small ruminants and buffalo (for a total of 3.2 gigatonnes CO₂-eq including rice products)...

All manure emissions were accounted for in the Livestock’s long shadow assessment (for a total of approx. 2.2 gigatonnes CO₂-eq), but only emissions related to manure management and manure application on feed crops or pasture are accounted for in this report (for a total of 0.7 gigatonnes CO₂-eq and 1.1 gigatonnes CO₂-eq, respectively)...

Both assessments include emissions related to land-use change from deforestation for pasture and feed crops and limit the scope of the analysis to the Latin American region. Emissions related in Livestock’s long shadow assessment

⁶⁷ FAO 2013 Report, p 8.

⁶⁸ FAO 2013 Report, p 9.

⁶⁹ FAO 2013 Report, p 10.

were estimated to be 2.4 gigatonnes CO₂-eq compared to 0.65 gigatonnes CO₂-eq in this report. The significant difference is explained by: (i) different reference periods (1990–2006 and 2000–2010 for this assessment and Livestock’s long shadow, respectively) and landuse change data sources (FAOSTAT and Wassenaar et al. (2007) for this assessment and Livestock’s long shadow, respectively); (ii) the limitation of feed crop expansion to soybean expansion in Brazil and Argentina only in this assessment, compared to the inclusion of all feed crop expansion in Brazil and Bolivia in Livestock’s long shadow; and (iii) different versions of the IPCC guidelines – see above....

Whereas this assessment uses the IPCC methodology as a basis for the quantification of landuse change emissions, the approach in Livestock’s long shadow is based a land-use change modelling framework that predicted potential land-use changes to 2010 based on projections from FAO (2003) and changes in forest cover.”⁷⁰

Clearly there are a number of decisions made about the parameters of what to include in considering the impact of animal agriculture on climate change, and about how to assess the various data, which can have a major impact on the overall assessment. The FAO took a more restrictive approach in its 2013 assessment than in its 2006 assessment. Had the 2006 approach been adopted again in 2013 it appears that the figure for CO₂eq would have been greater than 7.1Gt.

Our ad is concerned with the contribution to climate change of consuming animal products for food, and this rightly includes the loss of carbon capture potential through using land for animal agriculture that could be used for native woodland and peatlands. The failure of the FAO to take adequate account of the loss of carbon capture from global land use change associated with animal agriculture is one of the main criticisms levelled at their reports by experts who say they have vastly underestimated the contribution of animal use.

A number of more recent studies looking at the environmental impact of animal agriculture, including climate change, reference the fact that around 25-30% of all anthropogenic GHG emissions are attributable to the production of food.⁷¹ This is in line with IPCC figures. The 5th report from the IPCC, which it describes in the foreword as “*the most comprehensive assessment of climate change undertaken thus far by the IPCC,*” tells us that:

⁷⁰ FAO 2013 Report, p 106.

⁷¹ For example: the *Climate Change and Food Systems*, Sonja J. Vermeulen, Bruce M. Campbell, John S.I. Ingram, Annual Review of Environment and Resources 2012 37:1, 195-222 at p 200 “2.2.3. Total agricultural emissions and regional variation. Combining what is known about direct and indirect emissions, assuming three-quarters of deforestation, forest degradation, and peat land degradation is due to agriculture (28), and using lower and upper estimates reported above, agricultural production contributes 15%–25% of total global anthropogenic emissions”.

“In 2010, 35% of GHG emissions were released by the energy sector, 24% (net emissions) from AFOLU, 21% by industry, 14% by transport and 6.4% by the building sector.”⁷² AFOLU is agriculture, forestry and other land use.

They also provide this information in the following diagram:

Observed Changes and their Causes

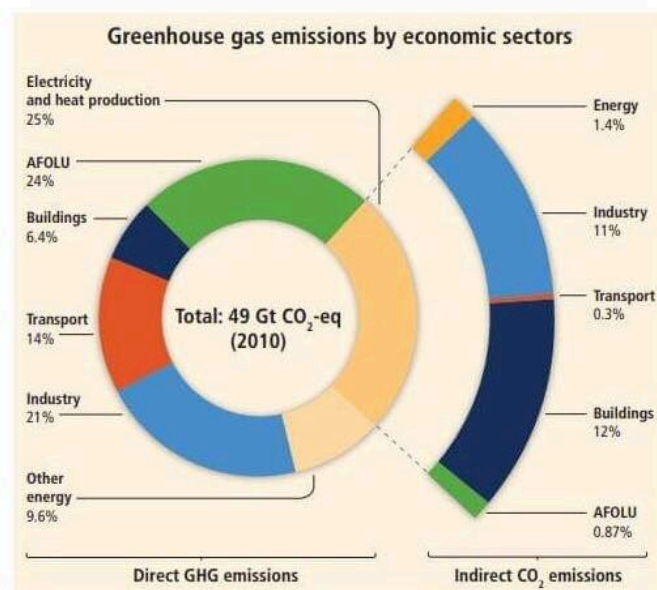


Figure 1.7 | Total anthropogenic greenhouse gas (GHG) emissions (gigatonne of CO₂-equivalent per year, GtCO₂-eq/yr) from economic sectors in 2010. The circle shows the shares of direct GHG emissions (in % of total anthropogenic GHG emissions) from five economic sectors in 2010. The pull-out shows how shares of indirect CO₂ emissions (in % of total anthropogenic GHG emissions) from electricity and heat production are attributed to sectors of final energy use. ‘Other energy’ refers to all GHG emission sources in the energy sector as defined in WGIII Annex II, other than electricity and heat production {WGIII Annex II.9.1}. The emission data on agriculture, forestry and other land use (AFOLU) includes land-

The note with this diagram states:

“Figure 1.7 | Total anthropogenic greenhouse gas (GHG) emissions (gigatonne of CO₂-equivalent per year, GtCO₂-eq/yr) from economic sectors in 2010. The circle shows the shares of direct GHG emissions (in % of total anthropogenic GHG emissions) from five economic sectors in 2010. The pull-out shows how shares of indirect CO₂ emissions (in % of total anthropogenic GHG emissions) from electricity and heat production are attributed to sectors of final energy use. ‘Other energy’ refers to all GHG emission sources in the energy sector as defined in WGIII Annex II, other than electricity and heat production {WGIII Annex II.9.1}. The emission data on agriculture, forestry and other land use (AFOLU) includes land-

⁷² IPCC, 2014: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp. 46 (Hereinafter referred to as “IPCC SYR AR5”)

based CO2 emissions from forest fires, peat fires and peat decay that approximate to net CO2 flux from the sub-sectors of forestry and other land use (FOLU) as described in Chapter 11 of the WGIII report. Emissions are converted into CO2-equivalents based on 100-year Global Warming Potential (GWP100), taken from the IPCC Second Assessment Report (SAR). Sector definitions are provided in WGIII Annex II.9. {WGIII Figure SPM.2}.⁷³

When we review the Working Group III report, 'Climate Change 2014 Mitigation of Climate Change Working Group III Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change', produced in 2014, it goes into more detail in terms of these figures. It notes that:

"The AFOLU sector accounts for about a quarter (~10–12 GtCO₂eq/yr) of net anthropogenic GHG emissions mainly from deforestation, agricultural emissions from soil and nutrient management and livestock." (SPM 4.2.4 [p48] Agriculture, Forestry and Other Land Use (AFOLU)).⁷⁴

This does not include energy use on cropland, which is attributed to the energy sector.⁷⁵

As discussed above, the IPCC does not provide separate figures for animal agriculture. However, the FAO and others have pointed out that animal agriculture is responsible for around 80% of all GHG emissions related to food production.⁷⁶ Therefore, if we take 80% of the IPCC figure for AFLOU that gives us something of a cross-check in terms of where transport sits in relation to animal agriculture. If we apply the 80% proportion for animal agriculture to the full amount attributed to AFOLU, 80% of 12 GtCO₂eq is 9.6 Gt, and 80% of 10GtCO₂eq is 8 Gt, giving a range of 8 - 9.6 GtCO₂eq; this puts animal agriculture well above transport (at 7Gt) on the IPCC's figures. Section 5.3.5.1 on Transport gives the figure for global transport, noting that those "*emissions grew from 2.8 GtCO₂eq in 1970 to 7 GtCO₂eq in 2010 (JRC/PBL, 2013).*"⁷⁷

We appreciate that this is a relatively crude approach, but it is based on information from the FAO in terms of the proportion of GHG emissions from agriculture attributable to animal agriculture and provides something of a cross-check confirming that animal use for food exceeds transport in terms of its contribution to climate change. (All of these figures exclude the impact of consuming fishes, as discussed in section 2 above).

Other studies have put the figure for the contribution of all agriculture higher than 10-12 GtCO₂e or 24% of all anthropogenic GHGs. For example, the Poore and Nemecek study states:

"Today's food supply chain creates ~13.7 billion metric tons of carbon dioxide equivalents (CO₂eq), 26% of anthropogenic GHG emissions. A further 2.8 billion

⁷³ IPCC SYR AR5 p 47.

⁷⁴ IPCC WG3 AR5, p 816

⁷⁵ IPCC WG3 AR5, p 283.

⁷⁶ FAO 2006 Report p 112.

⁷⁷ IPCC WG3 AR5, p 380.

metric tons of CO₂eq (5%) are caused by non-food agriculture and other drivers of deforestation (17).⁷⁸

This gives a total of 16.5 GtCO₂eq for agriculture, 80% of which is 13.2 GtCO₂e for animal agriculture, which far exceeds the 7 for transport.

There are further reports which suggest that even the Worldwatch figure of 51% of all anthropogenic GHG emissions may be an underestimate of the contribution of using animals to climate change. In April of this year Steven Chu, former US Energy Secretary, Nobel Prize winning physicist and President of the American Association for the Advancement of Science, gave a lecture at the University of Chicago in which he considered the greenhouse emissions attributable to using animals for food, and concluded *“agriculture and land-use generates more greenhouse gas emissions than power generation.”*⁷⁹ In 2018 the non-profit organisation the Institute for Agriculture and Trade Policy released a study in which they concluded that *“the world’s top five meat and dairy corporations are already responsible for more emissions than ExxonMobil, Shell or BP”* and *“warned that the livestock sector could be responsible for 80 per cent of the allowable greenhouse gas budget by 2050.”*⁸⁰

When account is taken of the experts who consider the figure used by the FAO to be a vast *underestimate* of the role of animal agriculture in contributing to climate change, our approach of referring to the FAO’s 14.5% assessment in support of our statement that the impact of consuming animal products is greater than transport may be seen as very conservative.

We have based our ad on the available, accessible information, provided by expert bodies in the field. The 2013 FAO report is the most recent global assessment of the full impact of animal use for food in terms of its contribution to climate change and it is our position that it is entirely reasonable to rely on that report alongside the IPCC figure for global transport, as other credible bodies such as Chatham House have done. This is particularly so given that we set out on our web site the expert reports we have relied on, with links to the reports themselves, in order that people can make their own assessment.

Conclusion

Our ad is intended to draw attention to the urgent need to address the highly significant contribution to climate change of using animals for food. This much ignored area has huge potential in terms of tackling human-caused climate change, as well as many other ways in which we are destroying our shared environment.

⁷⁸ *Reducing food’s environmental impacts through producers and consumers*, J. Poore and T. Nemecek, May 31, 2018, *Science* 360 (6392), 987-992 at p 987

⁷⁹ <https://www.forbes.com/sites/jeffmcmahon/2019/04/04/meat-and-agriculture-are-worse-for-the-climate-than-dirty-energy-stein-chu-says/#57b17f6b11f9>

⁸⁰ <https://www.independent.co.uk/environment/meat-dairy-industry-greenhouse-gas-emissions-fossil-fuels-oil-pollution-iatp-grain-a8451871.html>

It is our submission that the reasonable, objective viewer will appreciate that climate change is a global phenomenon and what is being compared is global consumption of animal foods and international travel. The available expert reports that consider the full lifecycle impact on climate change of using animals for food, compared to the figure attributable to global transport, confirm that the contribution of animal agriculture is greater than transport. We have set out in detail the two main reports relied upon in support of this.

We reject the apparent claim by the complainants, that the ad should be read as specific to the UK as climate change is a global phenomenon. However, even if the ASA were to agree with the complainants on that point, our ad concerns the contribution to climate change of consuming animals, not only emissions and not only emissions from production in the UK, which is all that is covered by the data referenced by the complainants. Although no full life-cycle assessment of the impact of consuming animals in the UK is available, the information we have located and referenced strongly indicates that when all of the elements involved in producing animal products are taken into account, including land use and fertilisers, the overall impact for consumption in the UK is in line with the global position.

As analysis of GHG data is a very complex area, in Section 5 we have provided further detail, including some of the alternative perspectives on the available data, in the interest of openness and fullness. From this we see that assessment of the contribution of animal agriculture to climate change depends on how the data is segmented and analysed. Many experts are of the view that the FAO figure is far too low, largely due to their adoption of an insufficient number of animals used for food and their failure to take adequate account of land use change and forestry clearance associated with animal agriculture. In relying on the FAO's 14.5% for animal agriculture and comparing that to the IPCC's 14% for transport we have adopted a conservative approach, while providing the viewer with links to the FAO, IPCC and a number of other reports in order that they can judge for themselves if they agree with our approach.

It is our submission that the statement made in our ad has been substantiated and we held sufficient substantiation for the statement when the ad was displayed, therefore it is not misleading.

We note that in addition to the rules on misleading claims in 3.1 and 3.7, you have referred to the rules on environmental claims in 11.1 and 11.3. In terms of 11.1, the basis of environmental claims must be clear. We have referred viewers to our website where we set out clearly the expert reports relied upon in making our statement.

Rule 11.3 covers comparative and absolute claims, with the focus on the marketing of products using such claims. We are not marketing any products; we are seeking to prompt people to learn more about the devastating impact of using animals on our shared environment and to act on that information by changing their behaviour. The section on comparative claims appears to be specific to claims that one product is more environmentally friendly than another. We make no such claims in our ad. We are also not making an "absolute claim," in the sense of claiming that a product is "best" or

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“green” or has “zero emissions”. We have made a statement pointing out that consuming animal products contributes more to climate change than transport. However, if the ASA finds that we have made an absolute claim, it is our submission that we have provided a high degree of substantiation, as we have relied on internationally recognised reports in the field of climate change and food systems.

We hope that this is sufficient to address the complaint, however if there are any specific points raised by the complainant which we have not addressed, or if you have any questions regarding what we have said, please let us know.

Company Details:

Go Vegan World CLG, Chamberstown House, Slane, Co Meath, Ireland, C15X795.

Registration Number: 624605

The ad was run through Primesight Limited, Registered office: The MET Building, 22 Percy Street, London, W1T 2BU, Registered in England No 1847728

We look forward to hearing from you.

Yours sincerely,

Sandra Higgins

For and on behalf of Go Vegan World

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