Briefing IV:

Strategies for a Seismic Shift to Less and Better Animal-Sourced Foods

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KEY INSIGHTS

- The problems associated with the modern industrialised food system call for a combination of actions by multiple stakeholders. At the consumer level, there is potential to increase healthier and more sustainable consumption through a mix of "soft" and "hard" interventions, such as informing better choices or changing food environments.

- There is a growing amount of experimental research showing the effectiveness of some strategies, while real-world evidence is still lacking for many others.

- Supermarkets, food manufacturers and fast-food companies have a strong influence on food environments and consumers. These actors have a broad marketing toolkit for steering consumer choice, which could be leveraged to accelerate the transition to sustainable, healthy food systems. However, food retail is a highly competitive sector and large companies generally perceive risk in promoting "less and better" animal-sourced foods (ASFs) without clear evidence of strong consumer demand.

- Governments are crucial actors in the food system, yet are currently facilitating and entrenching a status quo that benefits the extractive ASF industry. Through more integrated policies and by deploying the government's

range of instruments, including market interventions (such as subsidies), regulations and communication, governments can lead the emergence of food systems that are aligned with the Sustainable Development Goals, the Paris Agreement on climate change and the best standards of health and nutrition policies.

- The meat and dairy sector has significant power. The feed industry, the veterinary pharmaceutical industry, breeders, butchers, packers, industrial farmers and all the sector's pressure groups are blocking a swift transition to an ASF food landscape guided by a vision of "less and better" and supported at policy level. Actors in this industry will either need to join the transition towards healthier and more sustainable foods or forego their "licence to operate" and lose out. This can be achieved, for example, by financially supporting companies to redesign their operations and by holding them legally accountable for the damaging outcomes of their practices.

- The collective power of social movements will be instrumental in applying pressure on governments, shifting public perceptions of ASFs and building the power of alternative food systems.

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Introduction

The challenge of “less and better”

The production and consumption of animal-sourced foods (ASFs) in Europe far exceed the levels compatible with the Paris Agreement on climate change, and those recommended by numerous assessments of impacts of ASF production on the climate, biodiversity and human health. Many assessments propose a reduction of consumption and production of meat and dairy of 50 per cent globally, which means an even more ambitious reduction in Europe, assuming a fair distribution of cuts, to reflect the continent’s current above-average consumption.

Implementing effective strategies to support a shift to “less and better” ASF consumption will require significant changes in supply and demand, supported by efforts from business, governments and civil society organisations (CSOs). Given the scale of the transformation required, this briefing casts a wide net to identify economic, behavioural, political and grassroots strategies to support a transition to a healthier and more sustainable food system.

The first part describes strategies focused on influencing consumer food purchasing behaviour. Some ideas are speculative, based on promising results in different areas. Others have been studied and implemented, and show promise as significant strategies to shift production or consumption toward greater environmental sustainability.

The second part compiles approaches that can activate changes in policies and markets across Europe. These are the result of power analysis and system mapping, a literature review and interviews with experts in the field (see Annex I).

Part I: Influencing consumer behaviour

Addressing the problems associated with our contemporary industrialised and extractive food system will require a mix of strategies and action at multiple levels. We cannot “buy our way” out of these problems, yet we also cannot transition to a healthier, more sustainable system without efforts to shift what consumers select, purchase and consume. Influencing consumer behaviour will not only affect the real-world impacts of food purchases, but can send powerful signals to producers and manufacturers, as well as motivate shifts in cultural norms about expected ways of eating.

The ideas presented in Table 1 below are organised based on an approach from a UK government study that assessed interventions to achieve other social goals. A key consideration in promoting behavioural interventions is the question of public acceptability. While supermarkets and other consumer environments are already carefully curated to promote spending, consumers can object to governments or other stakeholders advocating strategies to influence their behaviour. Therefore, the behaviour-change interventions in this section are presented along a continuum from a higher degree of intervention (such as restricting or eliminating consumer choices) to a lower degree (such as guiding and supporting choices, including through “nudge” techniques). Where possible, examples of existing projects are included.

Table 1: Interventions to support a shift to "less and better" animal-sourced foods

Category	Levers/ Opportunities	Evidence of effectiveness	Example
Guide and enable choice			
Provide information	Information campaigns to increase knowledge on the health, environmental and other consequences of purchases	A 2018 Oxford University systematic review of experimental studies found that providing information about the health or environmental consequences of eating meat was associated with reduced intentions to consume and select meat in virtual environments, but there was no evidence to suggest this approach influenced actual behaviour.[1] Different approaches to information sharing, and combining it with other strategies, may be more effective. A 2019 randomised trial sent daily text messages on health or the environment to different groups. Both approaches significantly reduced meat consumption one month later, compared to a control group. The intervention groups also received daily reminders of their red and processed meat reduction goal.[2]	Numerous online sites and popular documentaries provide information about the health and environmental outcomes linked to ASF consumption. The UK Wellcome Trust-funded LEAP project has a touring exhibition called "Meat Your Persona" that uses a variety of interactive components to share research on the impact of what people in the UK eat and drink.[3]
	Information sharing on practical skills to choose less and better ASFs, including cooking skills, recipe sharing and knowledge on alternatives	No research was found showing the effect of skills training on ASF consumption. A 2019 systematic review examined 30 studies on culinary interventions for health promotion. The cooking classes were associated with improved attitudes, self-efficacy and healthy dietary intake in adults and children. Classes that included additional components such as education on nutrition, physical activity or gardening were particularly effective.[4]	The Park Community School in Hampshire, UK, has embedded food education throughout the day. The head chef runs the school farm, growing a large percentage of the fruit and vegetables served in meals. The school has forged links with local food producers to increase its use of organic produce, and the menu often includes up to two meat-free days per week.[5]

Provide information (cont.)	Provide full transparency to consumers on sourcing of animal products and production conditions	Some projects using product traceability through blockchain technology are starting to emerge. The French milk company Prospérité is the first digitally certified milk brand. Its research claims that 87 per cent of people had an increased satisfaction level with the brand specifically due to the transparency and accessibility of its sourcing information.[6]	Waitrose UK requires that its supplier practices extend beyond basic national "Red Tractor Assurance" levels, with bespoke standards that farmers must adhere to and that are independently verified. For example: - healthy animals are not routinely given antibiotics - all cows producing milk must spend a minimum of 120 days per year grazing - the company only uses free-range eggs, including for products that contain egg.[7]
	National dietary guidelines that integrate environmental sustainability	No research was found that explores the specific impact on ASF consumption of national dietary guidelines. A 2019 global review found that 23 per cent of guidelines recommended "limiting or moderating meat consumption". These were most commonly found in Europe. The most recurrent theme was "eat less meat and more fish".[8]	The Swedish food-based dietary guidelines integrate sustainability into dietary advice. The guidelines are primarily health based, but they explicitly link health and environmental issues for every food group, such as proteins, fruits and vegetables, or starchy carbohydrates. They advise people on how to choose more sustainable foods, including through labelling and favouring foods with a lower carbon footprint within a food category.
	Provide environmental impact labelling on food and drink products ("ecolabels")	A 2021 systematic review of 76 ecolabelling interventions found that across a broad range of formats and content types, ecolabels are effective at promoting the selection, purchase and consumption of food products.[9] Recent Oxford University tests of several ecolabel concepts on a virtual supermarket site found a significant reduction in the overall environmental impact of study participants' shopping baskets.[10]	A group of food-tech businesses in France, led by the ECO2 Initiative, have created an eco-score system that gives products a score out of 100 and displays it on a traffic-light A-E scoring scale. The Colruyt Group in Belgium and Lidl in Germany are testing this in their stores in 2021. Several French delivery and food scanning apps have already implemented the eco-score system.

Provide services	Self-monitoring interventions and individual lifestyle counselling	A 2018 systematic review found that self-monitoring interventions reduced red and processed meat consumption. The interventions also increased intentions to not exceed recommended levels of meat consumption for the weeks following the study.[11]	An Oxford University study is underway that uses an online platform to help participants track their meat intake, while prompting them to choose from a range of strategies they can use to reduce their consumption (e.g. try a meat-alternative, try a new vegetarian recipe, reduce the amount of meat in a meal). An adapted version of the site is now available for anyone to access and follow the nine-week programme.[12]
Provide services (cont.)	Help people develop new plant-based eating habits	Dietary habits strongly predict future consumption, even exceeding the influence of our intentions to change. This leads to the "intention-action gap". A promising strategy is to prompt people who have an intention to reduce meat intake with "if-then" plans that anticipate barriers to change. Sometimes called "implementation intentions", these if-then plans describe in advance where, when and how to act on the goal intention.[13] Loy et al. (2016) found this approach effective at helping people reduce meat consumption. Among other tasks, people were asked to write down actions to prevent an obstacle to their meat reduction goal, as well as describe actions to overcome obstacles (e.g. "If I come home from work with an appetite for meat, then I will make a meal with only half the normal amount of meat, but more vegetables").[14]	No examples were found that used implementation intentions at a broader scale to support meat reduction. However, several apps aimed at habit formation use this approach. Popular diet-tracking tools could be adapted to incorporate this strategy to support a range of healthy and sustainable eating goals.
	Provide plant-based culinary training through chef colleges, training placements and ongoing professional development	Chefs may not always have the training to create plant-rich dishes, given that they can be more complex, contain more ingredients and may involve new and unfamiliar cooking techniques. Often these types of dishes are not included in training courses, and existing back-of-house staff may need additional support to make novel meat-free dishes as appealing to customers as meat-led versions. No research was found exploring the impact of chef training on customer satisfaction or sales indicators.	BaxterStorey's Food EQ project is a learning tool aimed to empower chefs to make plants and pulses the centrepiece of dishes. It focuses on menu planning, cooking and plating techniques. The programme guides chefs through the transition, supporting them on challenges around time pressures, using new techniques and swapping ingredients.[15]

Use of social norms	Promote shifting social norms about reduced ASF consumption	A 2014 systematic review found "consistent evidence that norms influenced food choices".[16] Very few studies have been done on norms and meat reduction. Recent research shows that "dynamic" norms that highlight the process of change (e.g. "more people are trying to add plant-based foods to their diet") may be more effective than static norms (e.g. "lots of people follow a plant-based diet") at promoting counter-normative sustainability behaviours such as meat reduction.[17] A 2019 study in the cafeterias of a national UK department store found no effect of a dynamic norm promoting plant-based dishes. However, the study suffered from poor adherence to the study design in most stores.[18]	An innovative study run in a Stanford cafeteria offered customers waiting in the queue a US$5-discount on lunch for taking part in a survey on "consumer preferences". The survey included text noting a dynamic norm related to meat reduction: "...over the last 5 years, 30% of Americans have started to make an effort to limit their meat consumption". A randomised second group were exposed to a static norm message: "...30% of Americans make an effort to limit their meat consumption". Twice as many diners in the dynamic norm group ordered a meat-free lunch (34 per cent) compared to the static norm group (17 per cent).[19]
Change the defaults	Make meat-free or vegetarian options the default choice. For example: place meat-free dishes at the top of menus position meat-free options at the top of online grocery searches make meat-free options the default choice in college canteen ordering make meat an optional add-on (for a fee) to cafeteria dishes	Many decisions we take each day are positioned with a default option, whether we see it or not. Defaults exert influence, as individuals regularly accept whatever the default setting is, even if it has significant consequences.[20] A 2018 systematic review found some positive evidence from randomised trials on default positioning. Two out of four interventions repositioning meat products to reduce their prominence at point of purchase led to significant reductions in meat demand.[21] A newer study run in University of Cambridge cafeterias placed vegetarian options first on the counter where food is displayed. This increased their sales by 6.2 per cent when choices were widely separated (by more than 1.5 metres). However, there was no effect when the meat and veggie options were close together (by less than a metre).[22] This suggests that, in positioning vegetarian options, vendors must be mindful of the physical distance with comparison products.	Researchers at Radboud University in the Netherlands set up an online vegetarian-only menu where meat could only be added as a side option, for a fee. Participants were randomised to different versions of the site, including one that offered the usual range of meat and vegetarian options. When the meat-free meals were presented as the default choice with meat as an optional add-on, a significantly larger percentage of participants chose a vegetarian meal.[23]

Change the defaults (cont.)	Increase the ratio of plant-based to meat dishes on offer	A 2019 Cochrane Review found that increasing the availability of healthier foods influenced consumer choice, but the reliability of the evidence was judged to be low[24]. More recent studies that increased the ratio of plant-based to meat dishes in different settings found the approach effective at reducing meat selection. An analysis of a natural experiment that doubled meat-free hot meal options on a university cafeteria menu resulted in a 20 per cent decrease in meat sales. But another analysis of similar changes in 18 worksite cafeterias saw only a small but statistically significant meat meal decrease (2 per cent).[25] Overall, increasing availability of plant-based options appears promising, but the magnitude of the effect is still uncertain.	Researchers at the University of Cambridge doubled the availability of vegetarian options (from one out of four dishes on the menu to two of four) in three university cafés. Vegetarian meal sales increased by 70 per cent and meat sales decreased. This led to a substantial reduction in each cafeteria's food-related greenhouse gas emissions.[26] Based on these findings, many other cafeterias at the university have shifted their menus to more plant-rich options.
Changes to the physical environmen	Position meat-free products in the meat aisle in supermarkets	In 2019, a study was conducted with a large UK supermarket chain to test the effect of moving meat-free alternatives (such as veggie sausages and burgers) from the vegetarian section to the meat aisle. Twenty intervention stores moved a selection of meat-free products to the meat aisle and sales were analysed alongside 88 matched-control stores. Sales of meat-free products increased by 31 per cent in stores where they were in the meat aisle, compared to only a 6 per cent sales lift in stores where they remained in the veggie section. There was no significant effect of the intervention on meat sales.[27]	UK supermarkets Sainsbury's and Tesco started to sell plant-based alternatives such as meat-free burgers, sausages and mince in their meat aisles in 2019. While some vegans have criticised the move, as it forces them to shop in the meat aisle, the change is endorsed by the Vegan Society as a positive step in encouraging meat-eaters to try alternatives.[28]
Changes to the physical environ-ment (cont.)	Leverage public procurement to promote sustainable diets	Food procurement for hospitals, schools, government buildings and prisons should reflect current scientific evidence on health and environmental outcomes. Improving public procurement could include the development of healthy and sustainable catering schemes to encourage outlets to switch to better ingredients and menus.[29] While public-sector food spending does not rival that of supermarkets, it still has the ability to spark interest among suppliers to produce healthier and more sustainable foods. No research was found that identifies the impact of improved public procurement on health or environmental outcomes.	The Municipality of Copenhagen has pursued an organic agenda since 2001, with a goal of serving 90 per cent organic food in the 900 kitchens that produce meals across the city. The plan includes training kitchen staff in cooking techniques, menu planning, cooking food from scratch, incorporating seasonal vegetables, and strategies to reduce meat content. Kitchens were not given additional funding, but were asked to make changes from within existing budgets.[30]

	Reduce the portion size of meat in dishes and replace with beans, pulses, nuts or vegetables	There is strong evidence from a small number of randomised trials that reducing portion sizes can lead to lower meat consumption with no reported decrease in customers' enjoyment of the meal.[31]	In 2021, the UK's Eating Better and the PSC100 group found that 80 per cent of public-sector caterers surveyed have committed to reducing meat content across menus. Most (83 per cent) have increased plant proteins (beans, lentils, soya) in dishes by up to 20 per cent, while 60 per cent have been using more meat substitutes.[32]
Persuasion	Persuade those thinking about change by stressing the role of vegetarian and vegan opinion leaders as role models	No high-quality research was found that examines the specific impact of celebrity role models on eating behaviours. Some research from India using self-reported surveys shows that people find celebrity endorsements of products and social causes more attractive and influential than non-celebrity endorsements. The attributes of the specific celebrity impact the extent of the purchase intention or consumer support.[33]	More and more celebrities and opinion leaders are speaking publicly about changing their diet for sustainability reasons. This may help those who feel insecure about their decision to avoid meat and other animal products or feel under social pressure not to change their dietary habits. It could also help to neutralise the powerful effect of social pressure exerted by meat-eaters during meals.[34]
Persuasion (cont.)	Use creative language to increase the appeal of plant-based dishes	In one of the few field trials in this area, Bacon et al. (2018) randomly assigned 10 sites from a UK-based cafeteria chain to employ creative names for meat-free menu items. The use of appealing language was found to significantly increase sales of the target menu items over an eight-week period.[35] Some insights can be drawn from similar research on healthy food promotion. Stanford researchers tested the effect of using more attractive language to describe healthy foods in a university dining hall. They found that 41 per cent more diners served themselves the main vegetable when it had an indulgent name compared to a health-framed name, and 25 per cent more diners chose the indulgently labelled vegetable ("twisted-citrus glazed carrots") than the basic one ("carrots").[36]	Panera, a US-based café and bakery chain, tried renaming one of its main plant-based dishes, the "Low-Fat Vegetarian Black Bean Soup". Two alternative names, "Slow-Simmered Black Bean Soup" and "Cuban Black Bean Soup", were tested at a range of representative stores. Changing the name of the dish made a significant difference. Calling the soup "Cuban Black Bean Soup" led to an increase of 13 per cent in sales, while switching to "Slow-Simmered Black Bean Soup" had no effect[37].

	Evoke emotions by highlighting link with animals	Emotions are a powerful force in decision-making. Our responses to words, images and events can be rapid and automatic, so that people can experience a behavioural reaction before they realise what they are reacting to.[38] A 2020 systematic review found that evoking emotions with animal images proved effective in creating empathy and reduced willingness to eat the animal. However, most studies measured intentions rather than actual meat consumption.[39]	Advocacy group Be Fair Be Vegan has used images of animals extensively in campaigns in several countries to evoke an emotional response from the public.[40] Increasing the "cuteness" of animal images may be effective at shifting intentions. Researchers showed US and Norwegian participants an ad for lamb chops that included a picture of a lamb. For another group, they edited the picture to make the lamb look cuter, adding "baby-like" features. The cuteness of the animal picture was found to reduce meat consumption by increasing empathy, though the effect was greater among participants from the United States than from Norway.[41]
Persuasion (cont.)	Provide people with meat alternatives to increase familiarity, and make opportunities to try alternatives easy and accessible	An Oxford University randomised trial that offered meat-eaters vegetarian substitutes for four weeks, along with information about the benefits of eating less meat and suitable recipes, reduced meat consumption by 47 per cent relative to the control group. The reduction was still 29 per cent four weeks after the intervention ended. The intervention also increased intentions, positive attitudes, perceived control and subjective norms of eating a low-meat diet.[42]	An elementary-middle school in Vermont provided students with sample portions of four new dishes, including a plant-rich vegetable stew, the day before each was sold as the main lunch meal. After one month, there was an increase in the percentage of students who chose the target dish during lunch the next day. Vegetable stew sales increased 8.5 per cent and other options decreased (10.4 per cent).[43]
Fiscal incentives	Public financial support for the production and development of ASF alternatives	Globally, the alternative protein industry raised US$3.1 billion in investments in 2020.[44] However, little has come from public sources and some advocates are calling for additional public funding to accelerate growth. They argue that governments are better positioned to support the high-risk, pre-competitive and intensive research and development which are key to the cell- and plant-based meat industries overcoming barriers to growth and widespread adoption.[45]	In 2020, a cultured meat research project called Meat4All was the first cell-based meat project to receive a grant (€2.7 million) from the EU's Horizon research and development funding programme.[47]

Fiscal incentives		The Breakthrough Institute in California estimates that a US$50-million public investment would create 2,000 jobs and add US$1.5 billion to the economy over 10 years, although it does not give specific details about its analysis. The European Commission's "Farm to Fork Strategy" announced that for its €10 billion in funding for the bioeconomy and food, a key area of research will be "increasing the availability and source of alternative proteins such as plant, microbial, marine and insect-based proteins and meat substitutes".[46]	The Canadian government is investing around CA$153 million over five years through Protein Industries Canada to accelerate innovation in the plant protein sector. The funding will leverage industry-matched funding through collaborative projects.[48]
Fiscal incentives (cont.)	Increasing prices by eliminating harmful subsidies, internalising external costs or imposing taxes on animal production and products	The TAPP Coalition's analysis proposes that revenues from a meat tax in the EU could total €32 billion per year and be used for: - payments to EU farmers for sustainability income support (€10-15 billion) - subsidies on vegetables, fruits, plant-based food, and healthy and organic food (€7-12 billion) - support to low-income households to make meat affordable (€6 billion) - support to developing countries to double nature reserves and forests, reduce greenhouse gases, and adapt to climate change (€4 billion).[49] A 2018 Oxford University modelling study found that the optimal scenario would be for prices of processed meat to increase by 25 per cent on average, ranging from 1 per cent in low-income countries to over 100 per cent in high-income countries. Prices for red meat would increase by 4 per cent, ranging from 0.2 per cent to over 20 per cent. The analysis showed that consumption of processed meat would drop by 16 per cent on average, while red meat consumption remained stable, as substitution for processed meat compensated for price-related reductions. The number of deaths attributable to red and processed meat consumption would decrease by 9 per cent, and attributable health costs decrease by 14 per cent globally, with the greatest reductions in high- and middle-income countries.[50]	Proposals for some type of "meat tax" have been discussed in Sweden, Denmark, Germany, New Zealand and the Netherlands. A 2020 survey found that 80 per cent of German, 63 per cent of Dutch and 67 per cent of French participants were willing to pay a tax of at least 10 eurocents per 100 grams of meat, if revenues were used to pay farmers for improved animal welfare and CO2-reduction, and higher salaries for meat-processing workers.[51]

Fiscal incentives (cont.)	Make use of opportunities to diversify farming incomes by delivering public goods, such as improving farm biodiversity, soil health and forest cover	The UK's Eating Better Alliance cites an anecdote of a Welsh sheep farmer from the Nature Friendly Farmers Network. In recent years he has reduced numbers of sheep by 60 per cent to a level that balances with the natural grass growth of the farm. With no fertiliser and a very small feed bill, his costs have decreased and the farm is more profitable. Less meat is produced, but the pasture-fed animals produce meat that he believes is healthier for consumers and he has seen a huge increase in biodiversity on his land.[52]	Canada's not-for-profit Alternative Land Use Services (ALUS) programme works with farmers to produce ecological services on Canadian farmland. This can include clean water, flood mitigation, climate adaptation, carbon sequestration, species-at-risk habitat, and support for native pollinators. ALUS provides annual payments to its participants to ensure ongoing stewardship. The programme helps turn marginal farmland into productive ecosystems, allowing for the production of better ASFs.[53]
Restrict choice			
Choice editing	Limit meat offerings in schools and public-sector food environments, including universities and government offices	Several universities and government offices have taken steps to limit or remove meat from menus. Research cited elsewhere in this table from the University of Cambridge found promising outcomes for environmental impacts and sales. But no research was found related to government-mandated limits on meat sales in food service.	Helsinki School District introduced a "vegetarian day" across 33 school cafeterias, while 10 additional schools retained their regular lunch menu. Serving only plant-rich dishes was unpopular in the short term, and the number of students who ate in the cafeterias declined. There was also increased food waste. However, over time, students became more accepting of the change, and the amount of food taken and levels of food waste became comparable between the school groups. Researchers eventually found a small increase in the selection of vegetarian meals. Schools that introduced a vegetarian day saw more vegetarian meals selected on other days of the week, up from 11 to 15 per cent.[54]

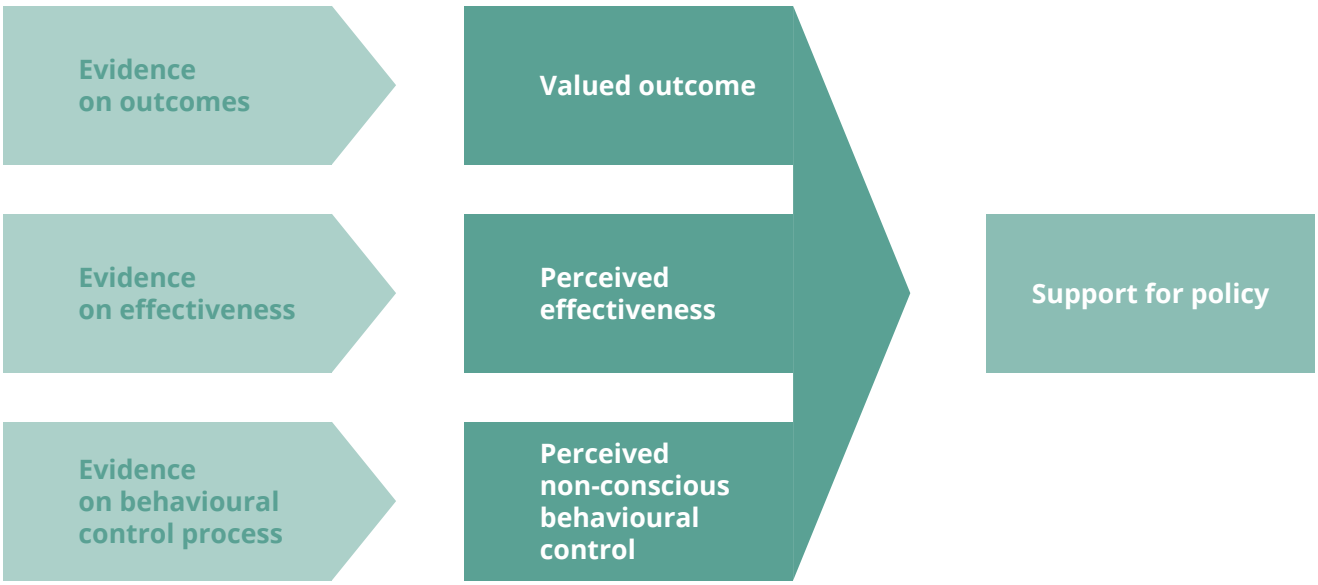
	Mandate reductions in ASF portion size in food products and meals	Research on meat reduction strategies shows strong evidence that reducing portion sizes can lead to lower consumption with no reported decrease in customers' enjoyment of the meal.[55] However, introducing portion limits through regulation is likely to face significant opposition from industry and consumers. Public acceptability of these types of regulatory approaches can be affected by the nature of the intervention, how it is framed, trust in the regulator, and the extent to which people value the motivations of those advocating the regulation.[56]	No examples of regulating meat or dairy portion sizes for health or environmental reasons were found. Perhaps the most famous example of portion size regulation is New York's 2013 sugary drinks portion cap rule (the "soda ban"). This aimed to prohibit the sale of sweetened drinks of more than 16 ounces, provoking intense industry and some public backlash. After the NY City Court of Appeals ruled against the amendment, it was repealed in 2015.
Marketing restrictions	Impose restrictions on the advertising or marketing of ASFs with the highest environmental impact	No research was found on the potential impact of this type of promotional restriction. Research on children's food advertising restrictions have found them to be effective at reducing consumption of fast food.[57] However, this research may not be applicable to a "meat ad ban" targeted at a general audience.	No examples were found of a ban on advertising ASFs via popular media. Restrictions on unhealthy food advertising targeted at children are in place in many countries. In 2021, the European Commission is conducting an impact assessment of its current food promotion policy. This is exploring the exclusion of red meat from its promotional funds.[58]
Eliminate choice			

Restricting choice	Mandate vegetarian-only meals (e.g. once a week) in schools and public-sector settings such as universities and government offices.	In October 2016, the University of Cambridge removed beef and lamb from the menus of its 14 eating establishments, increased the availability of plant-based dishes and removed unsustainable fish. Overall, carbon emissions were reduced 10.5 per cent. There was a 33 per cent reduction in carbon emissions per kilogram of food purchased, and a 28 per cent reduction in land use per kilogram of food purchased. The university's "Our Sustainable Food Journey" report notes that it retained the same level of footfall and increased gross profits by 2 per cent, despite increases in food costs.[59]	Several individual school authorities and cities in Europe have imposed restrictions on meat in cafeterias. The independent St. Christopher School in England has had a vegetarian-only diet for pupils since it was founded in 1915. More recently, several UK primary schools have removed meat from their lunch menus for environmental reasons. There have been mixed reactions and some schools have altered menus to offer options such as macaroni cheese for students who refused vegetable-led meals.[60] Several universities have removed beef from canteen menus. In 2021, the Mayor of Lyon, the fourth largest city in France, spearheaded an initiative to remove meat from school lunches. The move has received significant backlash, including from France's Interior Minister, who said it was an "unacceptable insult" to French farmers and butchers.[61]
Product prohibitions	Prohibit the promotion or sale of ASFs that fail to meet environmental labelling standards	Bans on the promotion or sale of food products have been imposed on many grounds (such as food safety concerns or prohibiting unhealthy food ads to children). But no government has implemented or discussed proposals for broad restrictions on the commercial availability of ASFs on the basis of environmental harm. Some universities have voluntarily removed beef from cafeteria menus, and in February 2017, the German Minister for the Environment announced a ban on serving meat at all official functions due to its environmental impacts.	Given that no jurisdiction has mandatory environmental impact labelling on food, no examples were found of this strategy having been implemented. In 2017, the FAIRR Initiative warned investors of the striking "ascendency of climate as the key driver of potential regulatory action".[62]

Increasing public support for strategies

Implementing many of the interventions described in the previous section may require regulation, restricting choices or increasing prices. These approaches are likely to be met with strong opposition from industries that stand to lose from them, as well as a sizable segment of the public. Increasing public support for these measures will be critical to ensure action is taken by governments and other key stakeholders. Research from tobacco and alcohol control and anti-obesity campaigns shows that public acceptability of government interventions to change behaviour is highest for the least intrusive strategies (such as providing information on health risks). However, these are often the least effective.[63] Unsurprisingly, people who do not engage in the targeted behaviours are more likely to support the intervention. An online study of public acceptability of meat reduction policies showed that support was lower among participants who reported higher meat consumption.[64] A survey of six European countries found a majority of respondents (68 per cent) supported energy companies defaulting customers to green energy providers, but only 36 per cent supported an airline carbon tax, which may be a more effective strategy in shifting behaviour and for environmental outcomes.[65]

Figure 1: Possible pathways to increasing support for policies targeting behaviour change[66]



One way to increase support for unpopular but effective interventions may be to promote evidence of their effectiveness. A recent systematic review showed that communicating evidence of a policy's effectiveness increased public acceptability to an equivalent of a rise from 50 per cent to 54 per cent. Conversely, sharing evidence that a policy is ineffective or that it has undesirable outcomes, such as economic and health costs, lowered acceptability, equivalent to a shift from 50 per cent support to 44 per cent.[67] This may not seem a large shift, but public support for policy changes can be decided with very small margins. In June 2021, a Swiss referendum on climate change measures, including a car fuel levy and airline ticket tax, was defeated by a 2 per cent margin (51 per cent "No", 49 per cent "Yes").[68]

Another key factor is how people value and perceive benefits versus risks of the problem. Maibach et al. (2010) found that policies on sustainability that were framed in terms of potential health benefits were particularly compelling.[69] This supports the idea that we tend to value benefits more than risks. However, finding climate change outcomes that are valued by the majority of the public is difficult given the climate emergency is still seen by many as a long-term, abstract and complex problem. This perception is gradually changing, in part stimulated by the increase of extreme weather events across Europe and worldwide.

Most Europeans say that protecting the environment is very important to them,[70] but when asked what the most important societal issues are, polls show that the environment is still not top of mind. UK residents tend to see climate change as a lower priority as compared to EU-27 countries. A 2021 YouGov poll found that just 29 per cent cite the environment as "the most important issue facing the country".[71]

Social media could be a key factor in providing accurate information and helping to shape the narrative. A 2019 Eurobarometer survey of the EU-28 countries found that the most popular social media source of information on the environment was Facebook (76 per cent), far ahead of YouTube (35 per cent), Instagram (30 per cent) and Twitter (17 per cent).[72]

People are also motivated to act on societal problems if they feel that others are doing their part. In a 2019 survey, a majority of people agreed with the statement: "I would be willing to make changes in my own life to cut greenhouse gas emissions if I knew other people were doing the same". The highest results were in France (82 per cent), followed by Italy (79 per cent), Poland (78 per cent), the UK (69 per cent) and Germany (68 per cent).[73]

Part II: Market and policy interventions

This section focuses on market and policy interventions to shift production and consumption of ASFs toward "less and better". While consumer behavioural interventions are a necessary part of the solution, they will not be sufficient on their own to transition our current food system. There are encouraging signs of progress in many European countries, but they are not unfolding at the speed necessary to halt the climate emergency, biodiversity crises and diet-related epidemics. In many countries, consumption of ASFs is still increasing and far exceeds ecological boundaries.

Based on a thorough analysis of the current situation and the position and influence of important stakeholders, this section describes five key transformations that should be focal points for advocates in promoting a transition toward a healthier and more sustainable food system within Europe. There are a number of different interventions that stakeholders can implement to support these transformations.

The interventions described in this section are drawn from eight in-depth interviews with experts in the field (see Annex I), discussions in the Healthy Food Healthy Planet forum sessions (May 2021), and selected policy and research reports.[74,75,76,77,78,79]

Five key transformations for a transition towards a healthier, more sustainable food system, with consumption of "less and better" ASFs are:

- **Supermarkets, food manufacturers, food services and fast-food restaurants** develop into catalysts of change by increasing market demand for more sustainable and plant-based foods and use their influence in the food chain for good.

- **Government policies and regulations** support diets and farming practices that address climate change and promote environmental sustainability and access to healthy foods.

- **Large corporate agribusiness loses its outsized influence** on policy makingpolicy making and supports a genuine, sustainable food-system transition.

- **The movement for healthy, sustainable food and farming** increases its impact on markets and policies.

- **Alternative production and distribution systems** gain importance.

Achieving these five key transformations depends on various **drivers of change:**

- **Dominant mindsets** about food across society change. Plant-based foods and the concept of "less and better ASFs" need to be seen as a culturally acceptable and "normal" choice. Retailers can play a significant role in shifting norms – for example, by selling meat alternatives in the meat aisle and giving equal advertising space to plant-based options. Advocates, government and researchers must continue to identify key barriers to consumer rejection of plant-based choices and promote strategies to address them (see Table 1 above for specific ideas).

- **The legal stakes of inaction** for dominant food actors change and existing regulations are used as leverage to move otherwise locked-in actors.

- **Financial institutions** support rather than hinder food and farming transitions.

I. Supermarkets, food manufacturers, food services and fast food

Food manufacturers (such as Unilever and Kraft), food services, fast-food companies and especially retailers have a big influence on how food environments are shaped and how food is produced. Given their influence, the purchasing policies of these actors should change, not only to adapt people's diets, but also to increase the market demand for better and more plant-based foods derived from ecological farming methods. Because these actors have such a dominant position in the food system, the impact of changes to their policies can be enormous and can provide significant impetus for the production of better and healthier food.

These actors have a broad marketing toolkit for influencing consumer choice, which could be leveraged to accelerate the transition. However, food retail is a highly competitive sector and companies generally perceive significant risk in promoting less and better ASFs without clear evidence of strong consumer demand.

Food manufacturers and retailers need to change into a voice for better produced and plant-based food, and use their political influence to gain policy support for the transition. Formal collaborations among key players such as food retailers, government, civil society and academics can yield substantial

benefits. Companies can learn from subject experts, while key research insights from real consumer settings can inform strategies to shift food purchasing for health and environmental benefits. Research shows that the key factors influencing the success of these collaborations are institutional (having sufficient resources) and those based on relationships (strong communications and trust among partners), output (shared objectives and effective knowledge transfer) and framework factors (having government support, and overcoming legal and data-sharing restrictions).

Opinions among interviewed experts differ over the role of supermarkets and food manufacturers in the future. Some make the case that a more decentralised (and therefore less dominant) retail and food production sector is a precondition for transformation of the food system. Others assume supermarkets and manufacturers as a constant factor, and therefore put all their efforts into transforming their policies.

Table 2: Levers to transform supermarkets, food manufacturers, food services and fast-food restaurants

Approach I: Targets and sourcing policy

Supermarket chains, food services and restaurants have protocols and policies which define the quality and production standards of the goods sourced for sales in shops. Such protocols are used for contracting producers, traders and purchasing organisations. These companies' purchasing policies can support the transition to healthy and sustainable diets when they:

- Commit to decreasing meat and dairy sales to a specific target, within a specific timeframe.
- Commit to increasing the share of organic and otherwise more sustainable meat and dairy to a specific target, within a specific timeframe.
- Commit to steadily ending sales of the worst ASFs (in terms of animal welfare, environmental, socio-economic and health impacts) within a specific timeframe.
- Support farmers in transitioning to ecological farming practices by facilitating knowledge and skill-sharing, fairly compensating sustainable farmers and actors in the food chain, and investing financially in new technologies and education.
- Use their influence in the food chain to ban ecosystem destruction and the practices most harmful to animal welfare, labour rights and human health.
- Offer a product range based on a greater diversity of crops and livestock of crops and livestock in the farmingsystem farming system, rather than pushing for increased uniformity.

Approach II: Clear communication to the public and customers

Retailers, food manufacturers, food services and fast-food restaurants communicate with consumers, civil society and other stakeholders in shops, canteens and at other physical locations in the food environment, as well as in different ways, such as sustainability reports. Companies could support food-system transition through communications if they:

- Publicly and transparently report relevant targets and their progress towards these.
- Report on carbon emissions (scope 1, 2 and 3 - meaning direct and indirect emissions from the production and consumption / use of products[80]), biodiversity impacts and other critical indicators, via yearly reporting in a uniform and comparable way.

Approach III: Marketing toolkit

Supermarkets and food manufacturers have tools and expertise in marketing products to consumers. These should be geared towards supporting healthy and sustainable products. Companies should:

- Stop selling meat produced with low environmental and animal welfare standards at unrealistically low prices, and stop competing with others over such products.
- End discounts and promotions for ASFs.
- Stop targeting children in product marketing.
- Embrace labelling initiatives that enable easier comparison of ecological, health and social impacts of plant-based and animal-sourced foods.
- Make plant-based foods and better meat and dairy products more accessible, via more attractive pricing in relation to meat, "choice architecture' (nudging consumers to make specific choices), "environmental restructuring' (changing the physical environment around consumers in order to influence their behavior)' and marketing and advertising.

Examples of campaigns

1 Feedback publishes supermarket rankings based on a wide range of indicators and engages with supermarkets to change policies.[81]

2 Feedback published its second ranking in june 2021 and concludes that only a few of 10 UK based supermarkets included are making progress. Others lack transparency, targets and concrete measures to work towards less and better ASF.

3 Feedback mobilises supporters to call on retailers to take responsibility for their role in climate change.

Greenpeace Germany is working on change in the retail sector and in government policies.[82] One of the addressed supermarkets, ALDI, changed its policies, which quickly got followed up by other retailers (see further in textbox 'Examples that should be followed'). The new German government could lead the development of more sustainable food systems in the country.

The Dutch animal welfare organisation Wakker Dier runs campaigns to improve the living conditions of chickens and to end advertising cheap meat[83] Dutch retailers announced concrete steps to improve animal welfare.

Retailers showing leadership

Recently there seems to be momentum for policy changes among supermarket chains. The Co-op supermarket in the UK is making strong investments to grow its share of vegan burgers and sausages, by bringing prices in line with meat-based equivalents.[84] PLUS supermarket in the Netherlands has announced a similar move, halting the sales of conventional milk in litre packages of its housebrand and switching these to organic milk only. The price remains the same and PLUS compensates higher costs for farmers. This is a meaningful change since the 1 liter packages are the most sold and like this PLUS does not leave a 'better' ASF choice for its customers.[85] ALDI has committed to stop selling meat products identified as the two worst animal-welfare categories in 2030 in its German market.[86] Although change is not immediate, this step is considerable, since it will significantly transform the way animals are held[87]. Supermarkets in the Netherlands (Albert Heijn, Jumbo, Lidl, PLUS and ALDI) have committed to halt the sales of chicken without animal welfare labelling and raise the bar to the lowest category of an animal welfare label initiated by an animal welfare organisation.[88]

II. Policy and regulations

To a large extent, policies relevant for food environments in European countries are defined through EU-wide coordination. Several policies offer potential leverage, such as the Common Agricultural Policy (CAP), food safety legislation, the Common Fisheries Policy, environmental legislation, health and energy policy, and trade and competition laws.[89] European and national agriculture policies are geared towards encouraging large-scale intensified agricultural production. Despite years of efforts by civil society to convince politicians and policymakers to design agriculture policies that consider the challenges of biodiversity loss, climate change and health, the latest revision of the CAP, almost finalised, remains problematic in this regard.

Many experts conclude that a more integrated approach to policies concerning food and farming would be a step forward. This should include a wide variety of different perspectives such as health, climate, environment, biodiversity, rural, feminist, anti-racist and socio-economic perspectives, besides the agricultural perspective. In other words, **food and agriculture policies regarding meat and dairy should be consistent with health, welfare, climate and biodiversity policy goals.** Reorienting agricultural policies toward sustainability goals would incentivise producers to transition to better farming practices.[90] New policies and regulations should include explicit targets for less and better meat and dairy production, and healthy, sustainable diets.

With the goals of changing both the production and consumption of food in mind, there are two broad conditions for policy interventions. First, **interventions should lead to holistic solutions and minimise trade-offs.** Reducing one type of impact should not lead to adverse impacts in another area. For example, the reduction of the climate impacts of meat should not lead to a shift in the type of meat consumed, but rather to an increase in plant-based products. Alternatively, a reduction in the environmental impact of ASFs should not lead to intensification of production, as that will not benefit animal welfare. Secondly, **interventions should lead to a systemic change in agriculture**, not to end-of-pipe technologies that leave the fundamentally problematic system in place.[91]

Policy literature often distinguishes between three relevant categories of policy instruments at governments' disposal: **economic and market interventions, regulatory measures, and information and persuasive instruments.**

Table 3: Policy levers for "less and better" ASFs

Approach I: Economic and market interventions **Governments can intervene in the market with financial instruments. They can make healthy and sustainable food production and consumption more attractive through subsidies or restricting unhealthy and unsustainable foods by taxation. Current agricultural subsidies too often promote the opposite in production and consumption of ASFs (see Briefing III, "Macro-economic drivers and shifts"). These economic interventions should not be restricted to consumer level, but implemented throughout the food system.**
Promote agriculture and food systems that deliver public goods such as healthy foods, biodiversity, thriving rural areas and climate change mitigation, through subsidies and favourable regulations: • Make ecological and sustainable practices mandatory for receiving agricultural subsidies • Promote increased biodiversity on farms, by linking agriculture subsidies to specific thresholds indicating diversity of crops, livestock and scale of operation

- Promote substitution of conventional animal protein for alternative animal protein (such as insects or cultured meat)
- Promote local and regional feed production, to restore nutrient cycles and replace soy imports
- Promote practices that enable cows to feed on grass, and pigs and poultry on food-waste and swill
- Promote better manure management, as dry manure emits less methane and ammonia
- Promote free-range production.

Stop perverse incentives, such as subsidies, that lead to unhealthy and unsustainable food production and consumption:

- Stop promoting industrial and extractive farming, by halting direct subsidies (such as per-hectare payment in the dairy industry) and indirect subsidies (market interventions, for feed production, and promotions).
- Using budget freed by halting subsidies to industrial livestock to promote healthy and sustainable food and farming
- Halting subsidies for the promotion and marketing of meat and dairy.

Implement the "polluter pays" principle through taxes on meat, carbon and unhealthy foods. This is not only a principled intervention, but can also work as a consumer incentive for better alternative foods. Taxation of meat and dairy can take place throughout the food system, from producers to traders and consumers.[92]

Finance research and development for innovation in ecological agriculture and plant-based food production.

Enable better scientific understanding of the benefits and challenges of alternative ecological food systems for key stakeholders such as farmers and policy makers. One key example involves showing the benefits of climate resilience in diverse ecological farming systems.

Support farmers in transition, by providing temporary compensation for the extra costs of switching from conventional to organic production.

Encourage better animal products and plant-based food by adapting public procurement to support these production methods and increase market demand.[93] France offers an example of changing procurement by institutions, with all schools obliged from 2019 to serve one fully vegetarian meal a week. By January 2022, organic produce should make up 20 per cent of school food.

Approach II: Regulatory measures

Regulations and laws are policy instruments of a more compulsory nature. Governments can prohibit specific behaviour or products and regulate production standards. Regulatory measures can also be less "repressive" and more stimulating – for example, when governments use voluntary agreements with stakeholders.

- Improve animal welfare standards by banning the worst practices, including long-distance transportation of live animals, inadequate housing, and cutting animals' beaks and tails.
- Cap livestock density to a specific livestock unit per hectare.
- Move away from a high density of farm animals close to humans, to prevent zoonoses, health impacts and pollution. This can be achieved by actively buying out farms in problematic areas and introducing robust environmental restrictions for new industrial livestock activities.
- Mandatory labelling of meat and dairy products, preferably with an indicator of or proxy for holistic sustainability.
- Further restrict the use of antibiotics, starting with those relevant for human health.
- Better implement the "one health" approach[94] in designing new policies on livestock farming.
- Better apply the precautionary principle when assessing the health and environmental impacts of diets and farming practices or technologies.
- Decrease the climate and biodiversity impact of feed production – for example, by taxation or a cap on fertiliser use, or regulating feed or forage with high environmental impacts, such as soy and oil-palm products.
- Ensure that trade agreements exclude ecosystem destruction, bad animal welfare practices and harmful farming practices, and allow protection of farmers' socio- economic position.
- Only allow imports of products from other regions that comply with European production standards.
- Allow individual farmers to take part in price negotiations with more dominant food chain actors.

Approach III: Information and persuasive strategies

These policy instruments are based on the assumption that consumers and actors change their behaviour once they are better informed about the advantages and disadvantages of specific decisions (see "Increasing Public Support for Strategies" in Part I above).

- Start communicating to the general public the need for a bold transition towards less and better meat and dairy, and a more sustainable food system, by running awareness-raising and popular education campaigns.
- Implement national dietary guidelines (or food-based dietary guidelines) in line with the EAT-Lancet reference diet or other relevant reference diets, and highlight the health benefits for consumers.
- Stop subsidies for the promotion and marketing of meat and dairy.
- Reintroduce farm extension services that are independent of input industries.
- Implement new indicators other than yield for successful farming: climate, ecosystem, health and socio-economic impacts. Adjust subsequent taxation, subsidies or regulations.

Opportunities for campaigns for political change

Food and farming will be at the centre of discussions and agreements following the proposed European Green Deal in the coming years. Part of this action plan is the EU's Farm to Fork Strategy and measures to better protect biodiversity.[95]

This strategy sets ambitious goals, such as 25 per cent of all European farmland being managed organically and a 50 per cent reduction of antimicrobial use, both by 2030. Interventions under negotiation include improving food environments and labelling, as well as public procurement and the promotion of consumer products. The subsequent legally binding interventions will be the subject of a legislative proposal on "sustainable farming" by the end of 2023. This is seen by experts in the field as the new frontier for changing food systems in Europe.

Although this proposal has the potential to be developed into a greenwash of unsustainable farming practices by the industry, the starting point for the development of this new legislation is much more favourable than the CAP for a progressive agenda of healthy, sustainable diets and ecological farming. This could be a possible turning point for more food-system-based thinking in European agriculture policies.[96]

Additionally, there are some good examples of public procurement policies that promote healthy and sustainable diets. An opportunity could be to focus campaign efforts on creating some "iconic wins" to grow momentum for better purchasing by governments and public institutions.[97]

Denmark has set a good example of how to inform its citizens about healthy and sustainable diets.[98] The country recently implemented a set of new dietary guidelines, using the EAT-Lancet reference diet as one of the leading principles.

In Germany and the Netherlands, there is growing momentum in favour of ASF taxation.[99] This has so far not led to concrete policy interventions, but could under the new Dutch government. Such a policy could set a precedent that is followed in other countries, eventually leading to EU coordination. A recent assessment by the European Court of Auditors critiqued the lack of a "polluter pays" principle in agricultural policies, and suggested a carbon tax on farm products.[100]

The recently adopted Zero Pollution action plan,[101] part of the EU Green Deal, could be an interesting opportunity for campaigns in regions with high water pollution from nutrients or veterinary pharmaceuticals. Water pollution in relation to agriculture is likely to be on the political agenda, with the upcoming evaluation of the legally binding Water Framework Directive in 2027.

In the run-up to COP26, the fast reduction of methane emissions is being discussed as a swift way to mitigate climate change outcomes. The US government announced a "methane pledge" together with the EU to reduce methane emissions by 30 per cent between 2020 and 2030.[102] A key strategy

could be to reduce methane emissions in the short term, as they cycle out of the atmosphere much faster than other greenhouse gases. So far, the reduction of meat and dairy consumption and a shrinking of the herd size are not part of the European strategy to reduce methane.[103]

Challenges

Competitive markets are not easy to steer without strong regulations. However, this lack of regulation is the trend in government policies. Sustainable development often depends on industry initiatives rather than public regulation. To solve this dilemma, governments could initiate multi-stakeholder agreements for collective action on labelling, advertising, menus and specific farming practices, which could evolve into regulation over time. Such agreements should include only willing actors who share these goals.
The majority of policy processes that offer opportunities for changing animal products are single-issue siloes, addressing topics such as animal welfare, climate, biodiversity or labelling. It is often more opportunistic to campaign for smaller wins within existing policy frameworks than to push for a holistic agenda of systemic change.

Additionally, governments have for decades have for decades liberalised markets and allowed industries significant freedom when it comes to sustainable development. Many of the proposed approaches require a stronger and more prescriptive role by governments.

III. Meat and dairy industry

The corporate capture of policies on food and farming by agribusiness and the food industry is arguably the prime impediment against real progress towards ecological farming and plant-rich diets. More specifically relevant to this report is policy capture by the meat and dairy sector and its input and processing industries. The sector's stranglehold on politics and public discourse means climate and biodiversity crises are met with more farming intensification and end-of-pipe technologies, while the health impacts of meat consumption are often simply ignored or denied. The influence of extractive food production and farming is so ingrained in policies, the market, research and development, marketing, and ultimately consumption, that it is a self-replicating system. Reducing corporate capture by the food industry and agribusiness of policymaking on food and agriculture would directly influence food environments. This is a conditional development needed to allow changes in the market and more progressive food policies by governments.

To be able to push the agenda for less meat and dairy and more ecological farming, this powerful corporate block needs to lose influence over politics and

markets. This power shift could be achieved through complementary efforts: on one hand, by **eroding the licence to operate[104] and the influence of the most conservative stakeholders in the industry**. And on the other, **attracting and emboldening progressive actors in the livestock sector** – including individual farmers, specific actors in the input industries, or factions within farmers' unions – to join the transition towards a more sustainable food system.

Table 4: Levers for transformation of the meat and dairy industry

Approach I: Unhealthy and unsustainable industries lose their licence to operate and run out of business
• Bad practices of the industry, such as deforestation, poor animal welfare and pollution, are exposed to consumers and politicians; retailers and food manufacturers end their contracts. • The influence of the industry on policymakers is exposed through investigative reporting and government freedom of information legislation. • The health and environmental harms related to ASF production, and the potential of ecological solutions, become part of the common narrative about meat and dairy. • The industry narrative loses its influence on the public discourse and the way consumers and voters think about meat and dairy. • The industry is held accountable – including legally – for animal rights violations, not acting on climate change, ecosystem destruction and denying people's right to healthy food.

Approach II: A range of progressive industries join and supports the food transition
• The transition for companies joining the transition is fair. Costs are shared, farmers are paid for all their efforts, and market access for sustainable produce is expanded. • Policies and market actors are supportive of transitioning farmers. • Ambitious targets are set, but with realistic timelines. • Companies that want to join the transition are involved in shaping plans and policies. • Solutions to challenges "in the field" are co-created and co-owned by farmers, processors and other stakeholders in the food system. • The resilience benefits of diverse ecological food systems are widely known to farmers, food producers and policy makers. • Companies are held accountable for animal welfare, and inaction on climate treaties and human rights accords. • European farmers benefit from policies of governments and industries that allow only imports of products from other regions that comply with European production standards. • This also increases food sovereignty, as well as environmental protection beyond Europe.

A movement for healthy food and a healthy planet

To enable a shift in the power dynamics that allow for change towards healthy and sustainable food production and consumption, the movement for better food and farming needs to become more influential.

Sparking systemic change in the way food is produced and consumed, while competing with the influence of dominant industries, demands a huge, coordinated effort from civil society. The rising movement for lower consumption of ASFs and more ecological farming should work to increase its influence sufficiently to shift the power dynamics shaping food environments. Changing markets and policies need to be accompanied and nourished by efforts to change dominant narratives and mindsets about food.

Table 5: Social movements as a driver towards "less and better" meat and dairy

Approach: Social movements strengthen their collective power
• Civil society organizations cooperate in surprising or unlikely collaborations, forming coalitions of unusual allies in civil society and markets. Coalitions should form in particular when engaging in iconic battles (such as reforming the CAP, legislating for sustainable farming, or preparing for national events with high potential impact). • Civil society strategies and tactics are coordinated even better, including via co-creation of strategies. • Different strategic roles and expertise in different organisations are used optimally. • The debate about ASF is reframed by sharing long-term demands, a common narrative with different vocabularies, and a common understanding of shared goals and solutions. • Building a strong group of supporting consumers, constituents and other individuals can help with creating strategic pressure at key moments. Transparency and involvement are vital in building this critical mass.

Challenges for movement building

Finding common bridges across the different visions and priorities of campaigning organisations can be challenging. For example, while one CSO might see a company as a potential partner for change, another might identify the same actor as part of the problem, and cooperation as greenwashing. Navigating these differences requires sensitive coordination and mutual understanding. It can be additionally challenging to find a common narrative and demands in a broad coalition of groups with diverse perspectives. Focusing on the long-term vision can be part of the solution. Awareness of possible counter-strategies from other stakeholders, along with effective and open communication, should help prevent allies from splitting. Strategic thinking and acting are essential to building a more effective sustainable-food movement.

V. Alternative production and distribution systems

Many involved in the movement for "better" production of meat and dairy argue that a food system that is fundamentally different from the current one is a precondition for a transition towards less and especially better ASF. Agro ecological food systems for example are not dominated by a small number of actors in trade, manufacturing and retail, but rather consist of a patchwork of more localised (social) networks. Because of the diverse nature of alternative food systems and opportunities for growth, it is hard to formulate a list of potentially successful interventions that help new food systems.

The development of new food systems involves persistent grassroots efforts. Cooperation with local governments could be effective to improve the physical and social determinants of food systems. For example, local governments could enable farmers' markets, or allow urban agriculture initiatives in spatial planning. Another opportunity for growth of alternative food systems is the trend towards more online marketing. This could be an innovative way to connect farmers and consumers. Farmers who sell their products via innovative online platforms and mobile applications are an interesting example of harnessing new IT innovations.

However, interviewed experts have different views on the role of alternative production and distribution systems. While some see immediate change coming from altering the purchasing policies of retailers, and alternative food systems as a niche with too little impact, others see accelerating the upcoming alternative food systems as crucial to changing food environments. The assumption is that when alternative food distribution systems reach a critical threshold, this will catalyse change from retailers and possibly decrease the dominant position of supermarkets in the food chain.

Drivers of change I: Altering mindsets

Support from a critical mass of people is needed to create transformational political and market change. To mobilise large numbers of people, it is vital to change the way meat and dairy are discussed. It should become appealing to join the movement, take private action to change diets, and demand change from supermarkets, restaurants and politicians. Campaigns should always include ways to involve people and further build critical mass. Trying to involve as many perspectives as possible could help drive success, but above all, people should be inspired by the campaign's vision and goals.

Drivers of change II: Legal frameworks and strategic litigation

Existing legislation and jurisprudence offer interesting angles for legal action and litigation tactics targeting governments or corporations.

A Dutch court recently published a groundbreaking decision in a case brought by *Milieudefensie* (the Dutch branch of Friends of the Earth) against oil company Shell.[105] The ruling states that Shell has not taken enough concrete action to prevent greenhouse gas emissions to comply with the Paris Agreement on climate change, and should immediately reduce its emissions.[106] By 2030, the oil producer is expected to reduce its emissions to 45 per cent lower than their 2019 level. This encompasses not only its own emissions, but includes scope 1, 2 and 3 emissions. The ruling is seen internationally as a turning point for companies to be held accountable for inaction against climate change. It opens opportunities for litigation in the meat and dairy industries – for example, making the case for lack of adequate climate measures taken by dairy or fertiliser companies.

In the UK, animals will get the status of sentient beings by law and policies to be further developed.[107] This is likely to open new routes for strategic litigation in situations where farm animals suffer, such as live transportation or in specific types of housing. It would be interesting to assess how the concepts of "avoidable suffering" and "natural behaviour" in relation to farm animals experiencing stress as a consequence of their housing and over-crowded sheds will be interpreted under this new legislation.[108] Practices such as cutting off chickens' beaks and pigs' tails might also be restricted, which could lead to significant improvements in farm animals' living conditions.

In the Netherlands, similar legislative amendments to animal protection laws have been adopted by Parliament and the Senate. This change of law is quite fundamental. Among other measures, it forbids "adaptation" of farm animals to their housing; rather, housing must be adapted to suit the animals. This amendment is intended to halt the removal of chickens' beaks and toes and pigs' tails, and is expected to cause litigation, as these are everyday practices in industrial livestock rearing.[109] Animals are hindered from "natural behaviour"

by the way they are housed on industrial farms. This new law could lead to significant changes in the way animals are treated.

Nitrogen pollution from ammonia or nitrous oxides is problematic for the conservation of nature. Some regions with high livestock densities are heavily polluted by nitrogen, which lead to litigation in the Netherlands and Belgium. Plaintiffs invoked the legal obligation for EU member states to halt the loss of biodiversity in designated Natura 2000 protected areas. The species and habitats in these areas are protected under EU directives, and in the Netherlands and Belgium this led to a halt in permits for (some) new industrial farms near nature reserves.

Since this ruling, the Dutch institutions are facing a situation where economic activities are blocked by excessive levels of livestock.[110] This will inevitably lead to a reduction in animals. In Belgium, the nitrogen issue has only just started to unfold, and the government's reaction is so far uncertain.[111] These cases in the Netherlands and Belgium could be an inspiration for Brittany, northern Italy and regions in Spain, where ammonia emissions from livestock are deemed too high for the protection of nature.

Another successful case brought to a Dutch court is generating widespread follow-up in other countries. In the case of Urgenda versus the State of the Netherlands, the state was held accountable for violating human rights in not taking enough action to prevent catastrophic climate change.[112] The court ordered the state to reduce greenhouse gas emissions by 25 per cent by 2020 in comparison to 1990. Urgenda inspired climate change cases in Belgium, Canada, Poland, the Republic of Korea, Colombia, Ireland, Germany, France, New Zealand, Norway, the UK and Switzerland, the EU and others.[113] In many of these, plaintiffs were successful, while in others the national courts dismissed the case or ruled against it. Some of the cases are still ongoing.

Comparable to the Urgenda case, based on a human rights argument, it would be interesting to analyse the feasibility of building a case on the human right to "the highest attainable standard of health"[114] and the lack of state action on healthy food with lower amounts of meat.

Drivers of change III: Finance

Banks, insurance companies and other financial institutions could help catalyse the transition to plant-rich diets and more ecological farming practices in several ways:

- Adopting new criteria for giving credit to farmers and other producers, and understanding investment in extractive and intensive farming as risky.

- Assessing food companies on their transition to more sustainable production and consumption.

- Divesting from the meat and dairy industry, following the example of the divestment from the fossil fuel industry .

- Seizing opportunities in the booming market for plant-based meat replacements.

- Investing in farmers who want to transition to ecological production.

Experts in the field have different opinions about the priority that should be given to finance in planning campaigns to catalyse a transition to more plant-based food and ecological farming practices. A successful approach seems to be engaging with investors with the aim of divestment from industrial livestock, akin to the fossil fuel or tobacco divestment movements.[115] These investments are risky and, as the work of the FAIRR Initiative shows,[116] there is a growing group of actors in the financial sector who share these concerns and value the opportunity to invest in the meat replacement industry. FAIRR provides insights to investors on environmental, social and governance concerns related to the operations of major global meat companies, but no research is available to show the effect of this information on companies' performance or environmental outcomes.

Attempts to change the financing policies of banks with high shares of their portfolios invested in the meat and dairy industries, are yet to prove effective. However, these actors are likely to alter their policies if change turns out to be inevitable. Some interviewed experts have expressed doubt over whether financial institutions can catalyse change towards ecological farming systems. Extractive agriculture, with high investment in inputs and industrial infrastructure, is by default a more profitable and compelling business case for investors than ecological farming, because it is more capital intensive.

Other interesting approaches exist for changing the financial sector towards less and better ASFs. Shareholders of food manufacturers, industries and retailers can file and adopt resolutions at shareholder meetings to change a company's policies, following the example of organisations such as *Follow This*, which have coordinated shareholder activism targeting the business plans of fossil fuel companies.[117]

Annex I: Interviewed experts

As outlined earlier, Part II of this briefing draws on a mixed methodology, including a survey of existing literature (research reports, policy assessments and other studies), discussions in the Healthy Food Healthy Planet forum sessions held in 2021, and a series of eight in-depth interviews with experts in the field. These experts were:

Jessica Sinclair Taylor
Head of Policy and Media, Feedback

Benoit Granier
Food Policy Officer, Climate Action Network – France

Christiane Huxdorff
Campaign Lead Meat and Dairy, Greenpeace Germany

Marco Contiero
Policy Director, Agriculture, Greenpeace EU

Nick Jacobs
Director, IPES Food

Inés Jordana
EU Food Policy Coordination, Slow Food

Jet Salomons
Campaigner, Wakker Dier NL

Nikolai Pushkarev
Policy Coordinator on Food Systems and NCD (noncommunicable diseases) Prevention, EPHA

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