

Unravelling the Norwegian meat reduction controversy: Navigating contested sustainabilities and the role of meat

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Abstract:

Controversy surrounds research reports that promote reduced meat consumption in Norway. By studying these controversies in the media, we ask why meat reduction is polarised seemingly between environmental and agricultural, urban and rural voices. We show how a ‘conventional’ definition of meat reduction in a self-regulating market tends to disconnect consumption habits from agricultural policies. The result is a paradox: Norwegians are urged to eat less meat, but farmers must produce more to stay afloat. In this conventional frame, meat reduction is seen by rural and farmer voices as a further exaggeration of agricultural decline, depopulation, and centralisation. To unravel this controversy, we contrast this with a critical ‘post-productivist’ view of conventional agriculture and volume-centred farm subsidies since the 1950s. We show how a different more interactive understanding of consumption as interrelated with Norwegian food policies, production, and distribution emerges, highlighting a path through the controversy. By reimagining a change from subsidies for production volume to production methods, climate, health, environmental, and rural issues are brought into conversation with each other. While largely remaining a marginal voice in a heavily polarized debate, we show how alternative notions of meat reduction can help us move past meat reduction controversies. The article stresses that the two concepts of meat reduction are characterised by distinct notions of consumption, suggesting that the popular understanding of what consumption is, can be a barrier to or a part of a meat-reduced future.

Key messages:

1. Polarisation and controversy are significant barriers to achieving meat reduction in Norway
2. Conventional meat reduction, imagined as an apolitical consumer measure, stirs controversy
3. Connecting farmers and subsidies to consumers through an interactive and historical understanding of consumption is crucial to unravelling meat controversies
4. Critical, post-productivist perspectives point toward collective solutions to achieve meat reduction

Introduction

Reducing meat consumption in Norway is a controversial and contested issue. Despite health authorities advising lower meat consumption, Norway's agriculture and food system incentivises increasing meat production and consumption (Directorate of Health 2022). Norwegians face pressures to increase and reduce their meat consumption, and polarisation and controversy ensue whenever politicians, researchers, or activists promote 'kjøttkutt' (meat reduction).

In Norway, both the EAT-Lancet report (Willet et al., 2019), and the 'Climate Cure 2030' report published by the Norwegian Environment Agency in 2020, urged Norwegian policymakers to facilitate a 'transition from red meat to a plant-based diet and fish' (Mittenzwei et al., 2020). Both reports left rural and agricultural issues underexplored, which stirred controversy in Norwegian media, pitched along urban-rural, environmental-agricultural lines. We argue that meat reduction is not only a matter of contestation between different interests but is so controversial and seemingly stuck because public debate addresses a particularly controversial form of meat reduction. It is framed in either-or terms of consumer demand or ethics: 'Can we eat meat with a good conscience, or should everyone become vegetarians?' (NRK TV 2018).

By describing how this controversy unfolds and exploring voices that resist meat reduction, we distinguish between two types of meat reduction that build on distinct ways of understanding how consumption might change and be governed. It makes clear that consumption plays a crucial role in contestations over how Norway and other countries can best undergo sustainability transition in the domain of food (Marsden 2016, 2017). First, we identify a 'conventional' type of meat reduction framework, wherein reduction is imagined as politically promoted without corresponding changes in food and agricultural policies – particularly subsidies. This view relies both on neoclassical notions of demand as market-given, and a neoliberal, consumer-centric concept of change – where uninformed or unwilling consumers appear to be the main barrier to meat reduction (see, e.g., Austgulen et al., 2018; Bailey et al., 2014; Dibb and Fitzpatrick, 2014, Vittersø and Kjærnes 2015). By contrast, an alternative meat reduction framework incorporates rural and agricultural political issues, pitting reduced meat consumption as a long-term feature of cross-sectoral political-economic changes that would benefit local food production. As this article identifies, polarisation often leads to a short-circuit in the connection between rural revitalisation and agricultural sustainability transition. This short-circuit inadvertently benefits a conventional meat-reduction framework that prioritises production volume within a centralised farming structure, leading to controversy, yet limited reduction in actual meat consumption. Although the article presents the case in Norway, the findings are relevant for other countries that experience similar sustainability controversies (e.g., Kanerva 2013, 2022).

In the next section, we explain our analytical approach to controversy studies. Then, we explain our methods and the background of contemporary Norwegian food and agricultural policy. Next, we dive into two analysis sections: The first section describes hearing responses to the ‘Climate Cure 2030’ report, highlighting what we call ‘conventional’ meat reduction. The second section traces the logic of post-productivist meat reduction as a critique of Norwegian post-war food and agricultural politics. Finally, we conclude with a discussion on the two kinds of meat reduction and concepts of consumption.

Controversy as sites of study

Dating back to the 1970s in science and technology studies (STS), controversies have been seen as valuable sites to study ongoing societal negotiations (Nelkin 1971). It was part of Kuhn’s (1962) work, where scientific controversy marked the tensions between one scientific paradigm and another. Building on Kuhn, controversies were sites for studying and understanding how the creation of new knowledge involved struggles between new and old ideas. What became known as controversy studies saw scientific knowledge production as a social phenomenon that could be studied (Jasanoff 2019). Facts were no longer seen as settled but involved political negotiations whereby challenging knowledge claims implied an effort to advance different actors’ goals (whatever they may be). Controversy studies offer a method of analysis that does not assume that one side is right or wrong. Instead, making use of the principle of symmetry, controversies are seen as moments that can help us understand how a variety of actors, scientists, policymakers, activists, or the media, seek to overcome disagreements in the social construction of science and technology (Jasanoff 2019). In this article, studying the controversy of meat reduction helps us move past questions of fact to identifying; 1) what issues are being contested that are otherwise obscured by polarization and 2) distinct notions of consumption undergirding two distinct ways of envisioning meat reduction.

We address meat reduction within a broader context of contested sustainabilities as expressed in Norway (Marsden 2016, 2017). According to Terry Marsden (2017), the UK countryside has played a significant role in hosting competing visions for sustainable agricultural transition. After periods with productivism and a neoliberal form of agriculture, from 2009, contestation has revolved around how the future of rural agriculture was imagined. First, a more globalised food production characterised by ‘sustainable intensification’ (what Marsden calls *bio-economy*), where, e.g. production of pork or chicken is seen as climate-friendly. Second, a more localised food production in harmony with local ecosystems which requires more land (*eco-economy*) (ibid.). The Norwegian meat reduction controversies play out over the countryside and the farm as critical sites, roughly between an economic and a bio-economic approach. We add that distinct understandings of consumption undergird

these different approaches and help us highlight the consumer-producer social relations at work in these controversies. With rural areas as sites of contestation in Norway, we contribute to research on sustainability transition by showing the role played by different understandings of consumption in finding common ground across polarised opposites. We hope this helps us navigate a path through the controversy.

Methods

This article draws on three key sources of data: document and media analysis of the meat reduction debate (approx.. 2018-2022), discourse analysis of a controversial report, and interviews with farmers critical of the food system. The data is generated based on a pragmatic approach to qualitative research, implying that we strategically combine and borrow ‘from established qualitative approaches to meet a study’s needs’ (Ramanadhan et al. 2021, p. 1). We initially started with a text-based analysis of the two first data sets and decided to supplement them with a handful of interviews to corroborate the findings from the analysed discourse.

First, a document analysis of second-hand literature (newspapers, magazines, online news articles, books and similar) related to the discourse on sustainable agriculture, agricultural policies, and meat reduction in Norway. We analyse books on alternative agriculture and media contributions on meat reduction in popular national newspapers in Norway. We find points of controversy regarding meat reduction in recent years and connect them analytically to critical perspectives on agriculture since the 1970s. Using publications from the 1970s to today, we show how the logic of criticism of productivist policies (subsidies in particular) builds a post-productivist perspective on consumption and food system change. Note that the authors have personally translated quotations from interviews and literature into English. We sampled the data purposively, implying that we followed the national debate around food, agriculture, and meat consumption through a large variety of media since 2018 and picked out the most relevant and striking ones for analysis. We chose 2018 as it was an arid year with large-scale crop failure, bringing food and agriculture anew into public view.

Second, a review of the municipal and county hearing responses to *Klimakur 2030* [Climate Cure 2030], a report made by six government agencies in 2019-20, which presented various measures and instruments that could provide at least a 50 percent reduction in sectors outside of the EU emissions trading system (ETS) in 2030 compared with 2005. Non-ETS sectors include emissions from, among other things, transport, agriculture, waste, and construction. The report was sent to a public hearing in early 2020 and received 1730 responses. We analyse responses from 11 counties (*fylkeskommuner*), 32 municipalities and nine associations of municipalities. Our analysis focuses on the hearing responses

relating to the measures suggested for the agricultural sector: 'transition from red meat to plant-based diet and fish' and 'reduced food waste'. According to the report, these two measures can significantly reduce emissions, potentially reaching 4.4 million tonnes of CO₂ equivalents in 2021-2030. As the report generated a widespread national debate on food, agriculture, and meat consumption in Norway, we decided to do a separate analysis of the report to analyse the underlying economic contradictions of meat reduction, which we then contrast with the perspective from the first set of data. We develop the ideal-type pair 'conventional' and 'post-productivist' meat reduction through this contrast.

Third, we illustrate specific points and perspectives in the article with material from six semi-structured personal and group interviews with farmers and rural residents in Norway who considered themselves part of a counterculture against established food and agricultural policies (see Table 1). The interviews were conducted between August 2021 and August 2022, anonymised and coded using NVIVO, as part of the MEATigation project ('MEATigation: Towards sustainable meat-use in Norwegian food practices for climate mitigation'). MEATigation was funded by the Norwegian Research Council (2020-2024) to explore the embeddedness of meat in Norwegian food culture. We use the interviews to illustrate how the contradictions of conventional meat reduction look from critical farmers' perspectives. The concrete examples generated from the interviews helped us make the distinction between conventional and alternative ideas of meat reduction easier to understand.

Table 1: Overview of interviews here

Contestations over Norwegian Agricultural Policies Since WW2

At the heart of meat reduction controversy lies recent histories of agricultural policies in Norway, and questions of geography, centralisation, and uneven development. Due to its mountainous topography, only around 3.5 percent of the land in Norway is arable (compared to Denmark's 60 percent). Around one percent of that is deemed suitable for grain production (Knutsen et al., 2021). Except in three lowland regions (Jæren, Oslofjorden, Trøndelag), most regions have land deemed unsuitable for large-scale plant agriculture, with extensive areas mainly used for pasture and grazing (Uleberg & Dalmannsdottir, 2018). As a result, the social-democratic phase of modernisation of agriculture in the post-war era (approx. 1950-1980) began a geographically uneven process of centralisation. For example, the *canalisation policies* in the 1950s localised grain production in the lowlands of Østlandet and Trøndelag (Almås, 2002; 2004). By market mechanisms or policy, peripheral and smaller producers in peripheral regions have had to shut down, echoing broader changes like depopulation and withdrawal of state services (Flø, 2020).

Today, while the lowlands produce most of the plants used for human food, peripheral and mountainous areas primarily rely on their ties to animal agriculture, whether pasture-based or feed-based (Knutsen et al., 2021). In this uneven landscape, some researchers argue that 60 percent of Norway's agriculture depends on animal production or producing feed in relatively large volumes (Aass 2019). Meat reduction enters an already contested issue of agricultural structure and 'countryside politics' (*distriktpolitikk*): should agricultural policies like subsidies be used to promote a widespread agricultural *structure* or centralised and increased *productivity* and *efficiency* (Vik 2020)?

Like in other parts of Europe, rural villages and communities have voiced resistance toward depopulation and centralisation policies in healthcare, education, and agriculture (Almås & Fuglestad 2020; Almås, Fuglestad, & Melås, 2020; Flø 2020). Long-term economic and industrial decline, access to education and employment opportunities have contributed to intensifying centre-periphery conflicts across Europe and North America (Almås & Fuglestad, 2020, Dijkstra et al., 2020). In this vein, farmers' rebellions occurred several times in the post-war period in Norway. The most famous of these in Norway, the Hitra tax strike in 1975, led to a political turn-around on centralisation. The Labour government laid the groundwork for new laws set to regulate and prevent factory farming and corporate agriculture using concession limits and new laws on farm property inheritance and speculation, and equalising farmer incomes with those of industrial workers (Almås 2004). These changes did not fundamentally resolve the contradictions of the state's demand for more productive farms or the issue of centralisation. Today, recent rural protests have again made rural concerns over healthcare, education, and agriculture visible in the media (Almås & Fuglestad, 2020).

Because farmers' market income has not kept pace with increasing costs and debt, many farm holdings have since the 1950s become more dependent on government subsidies to invest in the farm, purchase necessary feed, and service increasing debt—or face closure. Questions of meat reduction as a consumer issue enter already tense contestations. Given Norway's geography, topography, and agri-political history, there is no question that meat reduction driven primarily by consumer choice would be uneven and adversely affect peripheral areas. Popular media phrasings of meat reduction, like 'only two meat dinners a month' associated with the EAT report in 2019, may therefore strike an already inflamed nerve (Dalseg 2019).

Media and Controversies of Conventional Meat Reduction

In 2019, the EAT-Lancet Commission published a report suggesting a 50 percent reduction in global meat consumption (Willetts et al., 2019). Agricultural researcher Laila Aass (2019) at the Norwegian University of Life Sciences responded by arguing it would drastically reduce self-sufficiency in Norway

– a subject with political currency in Norway and the UN in recent years – and a shut-down of 60% of agriculture. The consequences would be, she argued, concentrating agriculture in the lowlands and that the ‘foundation for operating farms in valleys and mountains is lost’ (Ibid., p. 22). Simultaneously, agronomist and climate activist Thomas Cottis at the Inland University of Applied Sciences emphasised that halving meat consumption would help reduce numbers of ruminants and GHG emissions, leading to a disagreement on the scientific basis of their arguments; how do you calculate emissions and consequences from a complex food system (Aass, 2020, Cottis, 2020)? Later, Cottis and colleague Lilja Sjøberg added that halving meat consumption would also increase self-sufficiency (2022), to which agri-ecologist Rebekka Helén Aamaas at the Information Office for Eggs and Meat countered by questioning the factuality at work. She emphasised it is important ‘that the framework for sustainability builds on Norwegian resources’ – by which she means that self-sufficiency *will* be reduced through meat reduction (2022). While one side emphasises the necessity of change for the sake of the climate, the other emphasises the need to maintain food production and self-sufficiency. How consumption has changed over time and how it is defined is left as a black box. By primarily disagreeing over factuality corresponding with agricultural or environmental interests, these discussions inadvertently deflect attention from the political-economic framework that shapes and governs Norway’s agricultural structure, high consumption of meat, and self-sufficiency.

Other media debates on meat reduction similarly skirt the issue of meat’s context by stirring controversy over moralisation. In the country’s most-read newspaper, VG, author Dagfinn Nordbø and Green Party politician Ulrikke Torgersen held a tense disagreement centred on Nordbø’s claim that meat reduction came from ‘constant nagging’ and moralism (Nordbø, 2021; Torgersen 2021). The substance of the argument appeared to be a disagreement over whether imported lentils used more water and emitted more CO₂-equivalents than locally produced pasture beef. Torgersen responded to Nordbø’s claim of moralisation:

‘There is significant agreement that reducing meat consumption would be a smart policy. To claim this comes from young moralists is ill-conceived and an unnecessary suppression technique from Dagfinn Nordbø’ (2021).

The controversy concerned meat reduction’s rhetoric and social status: is it a moral injunction from young Green Party members? Or a legitimate and widely accepted political stance? Like debates that concern the emissions of sheep and cattle, this debate too unfolded without interrogating the framework in which meat reduction is to take place, nor the history of meat consumption.

As shown above, environmental and agricultural identities, rural and urban stereotypes, end up as opposites. While the imagined stereotypes ‘*young, imported lentil-eating moralists*’ versus ‘*rural lovers of local pasture-raised beef*’ are inaccurate, they point toward a line of conflict that people recognise – and feel as an attack:

‘The EAT report and Climate Cure 2030 are felt as an attack on agriculture, and therefore an attack on the farmer, even if it is consumers that determine what the farmer produces’ (Melås, 2020).

We noted this phrasing because it also emerged in an interview with rural, small-scale farmers: ‘It [meat reduction] attacks both meat traditions, and it attacks food traditions. It attacks the lifestyles of a major part of the population here’ (Interview #6). We argue that this sense of ‘attack’ rests on what we call ‘conventional’ meat reduction; reducing, changing, and regulating meat consumption without political-economic changes to the food system that would address existing conflicts and issues. This paradox is shown more clearly in the next section.

Negative Responses to ‘Climate Cure 2030’

In January 2020, the Norwegian authorities’ Climate Cure 2030 report described over 60 measures from forestry sectors to transportation to reduce GHG emissions, which then took hearing responses from municipalities, counties, businesses, and individuals across Norway. Of interest here is the ‘J01’ measure: ‘transition from red meat to plant-based diet and fish’ (from here on, the ‘meat-reduction measure’). The report assumed that average Norwegians would reduce their consumption of red meat per week from approximately 770g to 330g in 2030. It was assumed to be ‘cheap’ but relatively ‘difficult’ to implement, as it would be difficult for the government to persuade consumers to eat less red meat. While many measures, like reduced food waste, were heartily supported by the municipalities and counties we analysed, the meat reduction measure received an almost universal rejection in the media and hearing responses.

For the counties beyond the main cities in Norway, there were many reasons for rejecting the meat-reduction measure: reduced self-sufficiency and food production and reduced maintenance of cultural landscapes. 11 municipalities argued that reducing meat production in Norway would likely lead to increased emissions abroad as meat imports may increase in response, shifting the climate burden. Trøndelag County, a central agricultural region, pointed to the unevenness of the meat reduction measure.

‘It is too poorly understood how we can ensure that those who live in sparsely populated areas do not ‘suffer’ more than the rest of the population when climate measures are implemented’.

Self-sufficiency and safeguarding local food production were among the most common objections to sustainability transitions like the meat reduction measure. The Regional Council for the Mountainous Region writes:

‘The authorities and the agricultural and forestry industry must continue the work for a policy that increases the degree of self-sufficiency and emergency preparedness so that we meet unforeseen events nationally and internationally with safer local food production.’

Underlying the concern with self-sufficiency and emergency preparedness lies the question of how those mountainous regions would participate in a meat-reduced future since those areas are considered primarily areas suitable for animal agriculture. Self-sufficiency and agricultural structure are deeply intertwined, and key to understanding the contested nature of meat reduction as a part of sustainability transitions is the question: *who gets to participate?*

Calculations in the Climate Cure 2030 report showed that one of the preconditions for the emission reduction potential was that Norway’s production of fruit and vegetable increases:

‘Increased share of Norwegian production is included in the measure to consider sustainability, especially concerning food security, self-sufficiency and employment’ (Mittenzwei, 2020, p. 195).

While this covers the issue of self-sufficiency and food security nationally, it left the underlying geographical question of *who gets to participate* unanswered. If Norwegians were to eat more fruit and vegetables and less meat, where would this new food be produced? Would further depopulation and decline hit the mountains and valleys?

The municipality of mountainous Oppdal drew attention the issue of agricultural policies in their pushback: ‘The one-sided negative focus on red meat and ruminants as climate villains makes our advisory job very difficult.’ Tourism, production of grass and pastures, and animal agriculture (mainly sheep) are cornerstones of mountainous Oppdal’s economy. As elsewhere in Norway, animal agriculture needs subsidies for carcasses delivered (especially sheep) and feed subsidies to be economically sustainable. With almost no production of grains, they do not compete well with lowlands like southwestern Jæren, Trøndelag, or Østlandet. Put simply, Oppdal municipality authorities have no idea how to navigate a policy of meat reduction given the current agricultural system.

The Climate Cure 2030 report responses appears to shows that Norway’s food system is tied to an increasing volume of meat production. We argue that the underlying problem lies in the role of political economy and what concepts of consumption are employed. That is, the unanswered question is how does a consumer-oriented reduction policy impact agriculture when agricultural policies appear keyed to increased production volume? In Norway’s current food system, it is economically vital that consumers continue to maintain their meat consumption, even if they are advised not to, because growth-oriented policies frame farmers and food processors’ investment choices. As a result, reducing *consumption* is seen as a direct reduction of *production volume* and *subsidies* and, ultimately, economic sustainability.

We see this in how most municipal and county responses referred instead to a completely different climate change mitigation agreement that did not demand adjusting production volumes. In *the voluntary agricultural agreement of 2019*, the tacit premise is that production should not be reduced, as stated by Grong municipality:

‘The agricultural sector’s own [voluntary] climate plan contains measures to significantly reduce the industry’s greenhouse gas emissions without significantly changing agricultural production.’

The 2019 agreement between the agriculture sector and the government aimed to reduce agricultural emissions by 5 million tonnes of CO₂ equivalents by 2030. The agricultural sector could freely choose measures to reduce emissions. Examples are advisory services for climate-friendly changes, fossil fuel-free vehicles and heating, better storage of fertiliser, and use of the soil as carbon storage (Norges Bondelag 2020). In the agreement, the government was responsible for ensuring consumption changes related to, for example, reducing food waste.

Unlike Climate Cure 2030, the voluntary agreement works within the established logic of today’s agricultural system because it does not demand alterations to the volumes of meat produced by each farm per year. This is an example of ‘sustainable intensification’ in Norway, defined by an agricultural development toward fewer, bigger, and more effective farms making climate-friendly changes through technological and infrastructural investments (cf. Marsden, 2017). The largest Farmer’s Union in Norway pithily summarised the voluntary agreement with this headline: ‘Cut emissions, not food production’ (Norges Bondelag 2020). This view echoes wider media debate where meat reduction becomes discursively synonymous with food reduction; ‘When we are to cut climate gas emissions from agriculture, we must cut those emissions without cutting our ability to produce food’ (By & Aamaas 2021). The voluntary plan aims to achieve a reduced emissions target ‘without reducing the use of Norwegian arable land, without reducing settlement in the districts, and without reducing the number of cattle, sheep, and goats on Norwegian pastures’ (Ibid.). Precisely because it was premised on *not* reducing volumes of meat, it was argued that the voluntary measure would have approximately the same climatic effect, and did not fuel the same fears of agricultural decline and uneven consequences.

Consistently, ‘meat reduction’ is discussed in Norway as a consumer measure at odds with the political aims of a relatively even agricultural structure, rural interests, self-sufficiency, and emergency preparedness. Because the political-economic framework within which meat reduction is thought to take place is rarely a subject, it remains a *conventional* meat reduction; a change in consumption of meat without political changes to agricultural policies and governance. We argue that the controversies surrounding conventional meat reduction rely on the widespread use of a neoclassical definition of consumption as market demand that black-boxes and obscures the historical connections between consumption and agriculture. Through such a view, recent decades of record-breaking meat

consumption volumes remain a taken-for-granted institutional fact of the market. Framed primarily as a consumer measure by policymakers, it seems impossible to reduce meat consumption without triggering controversy. In the next section, we address critical and post-productivist perspectives on agriculture that find a way to integrated meat reduction as solution to long-standing grievances in rural areas and agriculture.

Post-Productivist Criticism in Norwegian Agricultural History

Across Europe, resistance to sustainability transition measures is bringing rural concern to the cities. In the Netherlands in 2019, one MP's suggestion that chicken and pig livestock numbers be halved to comply with EU regulations on nitrogen deposits led to heated protests and media debate on export-oriented Dutch agriculture. Because it threatened farmers' livelihoods as food providers in the opposition between 'the people' and 'the elite,' the livestock reduction suggestion was seen as an attack on farmers (Bosma & Preen 2021, see also Boztas 2022; Holligan 2022). Here too, reducing animal agriculture output and growth fell along urban-rural lines of conflict.

Resistance to the construction of windfarms, road tolls, and closure of schools and healthcare institutions in peripheral Norway echo similar sentiments (Almås & Fuglestad 2020). Yet, climate measures and sustainability transitions are not necessarily opposed. As Bjørn Egil Flø argues, 'how the transition is thought to take place' is what drives resistance to climate and sustainability measures (Flø, 2020, p. 44). Sustainability transition measures may be perceived as a 'green-washed' neoliberal policy that further exacerbate rural depopulation and agricultural centralisation issues (Ibid.). This leads us to explore the already established criticisms of agricultural policies that have been a source of contestation for the last half-century.

In the next section, we describe another kind of meat reduction perspective that builds on a different consumption concept. The starting point for this view of meat reduction is criticism of productivism and the conventional agri-political system.

Since WW2, Norway has pursued a productivist agricultural regime, though compared to more hyper-productivist countries Norway has implemented more counter-balancing policies and laws (Almås & Campbell 2012; Almås 2004). Productivism is defined as an 'overarching focus on increased and more efficient production', often at the cost of production stability (avoiding under and overproduction) or the structure of agriculture (that is, whether agriculture is centralised, concentrated, and intensive, or more widespread, diversified, and 'extensive') (Fuglestad & Almås, 2020, p. 8; Vik

2020). This gradual evolution of fewer, bigger, more economically efficient farms is part of what we call ‘conventional’ agriculture today.

An alternative perspective on meat reduction begins to emerge through criticism of productivism. In the 1970s, renowned critics Gjermund Haga (1978; 2009) and Helge Bergo (1976; 2005) drew attention to productivism as ‘avvikling’ or the disassembling or *undevelopment* of agriculture – fundamentally at odds with the stated political goal of encouraging widespread agriculture across the country. Their criticism was directed at the ‘corporative system’; the Department of Agriculture, and two big representative farmers associations in Norway (Norwegian Farmers’ Union and the smaller and more radical Smallholders’ Union) that negotiate annual agricultural guidelines, subsidies, and target prices for certain agricultural products each year. Both that argued this ‘power elite’ acted as false representatives on behalf of farmers, implementing an agricultural policy regime that guaranteed the closure of farmers in peripheral areas that were less ‘efficient’ and ‘rational’. With few opportunities to export products due to national policies, smaller and more peripheral farms had to shut down ‘if the whole agricultural sector is to avoid drowning in overcapacity’ (Bergo 2005 p. 203). For these critics, closures of farms and depopulation of rural areas were politically willed, and its primary mechanism was subsidies ‘tied to produced volumes’ (henceforth *volume-centric subsidies*) (Bergo 2005, p. 203).

From the perspective of the farm, investing in greater productivity to receive more volume-centric subsidies has been vital to shore up low incomes and increasing debt since the 1950s. Yet, profitability does not necessarily increase with volume within a productivist system because costs increase with volume:

‘Hoarding rented fields and driving around the whole town with manure and artificial fertiliser? That will not improve our economy. You get higher sales volumes and more work.’ (Interview #2).

For many farmers in animal agriculture, costs and debt have increased well beyond market income. Subsidies make up the difference – making it a highly charged political issue. The average debt of farmers today is over 2 million NOK (approx. 200 000 USD), and the average income is less than 200 000 NOK annually (approx. 20 000 USD) (SSB.no). Farmers must produce higher volumes of milk or meat to earn more market income, which drives lower prices, leaving many farmers worse off than before, with bigger facilitates, or being forced to close. As one farmer in Ottadalen illustrates, volume-centric subsidies today shape farmers’ decisions fundamentally: ‘...to get subsidies you must build bigger. You must build beyond the land’s production base to get subsidies’ (Interview #2).

From this point of view, volume-centric agricultural policies

1) force smaller, less productive, and peripheral farmers to close

2) ensure that the remaining farmers were fundamentally dependent on subsidies, increasing their output, making them sensitive to rising energy and feed costs, and

3) ties animal agriculture to increasing meat consumption

From a critical point of view, established agricultural policies were simultaneously uneven, subsidised, and dependent on increasing consumption of animal products.

The image that emerges is an agriculture dependent on subsidies; an agriculture genuinely afraid of consumers eating less meat because income is tied to volume. Bergo's view is particularly stark: 'An agriculture that lives off subsidies from the state, as Norwegian agriculture does now, is as a patient in a respirator. What happens if someone suddenly tries to turn the respirator off?' (2005 p. 194). Because today subsidies are keyed to volumes, EAT-Lancet and Climate Cure 2030's conventional meat reduction measure stokes fear that it will be the same as 'turning off the respirator'. In other words, *conventional* meat reduction threatens to exacerbate the depopulation and economic decline that rural areas and farmers have lived with and protested for decades. With criticism of productivism in Norwegian agriculture, alternative meat reduction and consumption concepts become visible. The role played by specific agricultural policies is placed squarely at the centre, where it would otherwise be obscured.

Post-Productivist Meat Reduction: from volume to use-of-land subsidies

Critics of productivist agriculture have increasingly combined climate and environmental issues with rural concerns over farming's future. Authors like Siri Helle (2015), Marit Bendz (2022), Espen Løkeland-Stai and Sverre Arne Lie (2019), and Dag Jørund Lønning (Lønning & Lønning 2017) show how alternative ecological and regenerative perspectives challenge the productivist paradigm. It is possible, they argue, to change the logic of agricultural subsidies to reduce meat consumption and mitigate emissions while addressing rural interests. This form of meat reduction begins with a rejection of the productivist history of conventional agriculture – hence we dub it 'post-productivist meat reduction'. It aligns with what Marsden (2017) has identified as the 'eco-economy' in the UK; an economic vision of agriculture that incorporates the ecological limits of land, people, and animals into a perspective on sustainability transition.

Authors Løkeland-Stai and Lie identify the paradox of productivism, as Haga and Bergo did (Løkeland & Lie, 2019, 2012; also, Helle, 2015).

‘While Tine [*dairy cooperative*] and Nortura [*meat cooperative*] want large volumes at centralised facilities to lower costs per produced kilo or litre, farmers’ opportunities to earn profitable sales on the volume they produce are diminished’ (2019, p. 227).

That subsidies are keyed to volume directly impacts possibilities for reducing meat production: ‘The current policy of increasing agricultural production makes any reduction in production intensity or scale to meet climate goals difficult’ (Fuglestad & Almås, 2020, p. 74). The current agricultural system makes investments in climate-mitigating technologies or processes, quite aside from changes in production-volume, complex (Fuglestad & Almås, 2020; Flemsæter, Bjørhaug & Brobakk, 2017). A nationwide survey of farmers’ attitudes showed that 49 percent said profitability was too low to make new investments, and 32 percent said the future was too uncertain. At the same time, 14 percent shared that they were not investing because they were closing (Agri Analyse, 2021).

There are numerous perspectives on agriculture that, in some shape or form, critique productivist policies. Some, like Haga and Bergo, oppose productivist agriculture by reference to safeguarding rural interests, more widespread agriculture, grass-based feed production, and smaller-scale farmers’ interests (Almås & Fuglestad 2020). Others are founded in ecological and environmental perspectives, for example, those who favour a regenerative (or organic, bio-dynamic) way of producing food. Technologies that have contributed to growing production volumes of feed, dairy, and meat, like growth-promoting fertilisers, imported feed ingredients, and chemical agents, are here seen as, at best, a necessary evil to be used in small quantities. In a countercultural vein, these perspectives outline political and agricultural tools and mechanisms to transform the food system. In both cases, meat reduction is not primarily a consumer measure. It is both a result and a part of a broad transformation.

With this more eco-economic understanding of agriculture, we see meatification as intimately tied in with problems in agriculture. The words of one farmer illustrates this. ‘Sustainably running the farm can ensure that the soil is made use of in a balanced way.’ For this farmer, sustainable and balanced animal agriculture in Norway is premised on addressing meatification. While they argue ‘everyone in Norway should eat meat,’ they also describe themselves as ‘a meat producer that really believes that the consumer should eat less meat’ (Interview #5). This farmer points to meatification as key to the problem they are now facing: ‘When I grew up, beef steak was a Sunday dinner. But now steak is everyday food’ (Ibid). Norwegians eating less meat here emerges as a part of the solution for making use of available land, maintaining economic profitability, and staying within the carrying capacity of people, land, and animals. ‘My main interest is in the soil – you should grow whatever the soil suits. We depend entirely on the outfields during the summer to have enough feed for the winter’ (Ibid.).

By rejecting technological inputs like synthetic fertilisers, the need for economic capital and the need to incur debt is replaced by a need for more labour to manage pasture animals, set up fencing, growing cover crops to manage soil fertility, erosion, and pests (see Almås, 2016). Built into the idea

of regenerative agriculture, or more widespread agriculture with smaller farms is more labour, more people, and more local value-creation (turning need for capital into need for labour).

To support a more regenerative vision of agriculture, both meat consumption and subsidies must change and be governed in interaction with each other. Proponents of this vision argue that subsidies should be redirected from productive output (volume) to method of production (how land, soil, and animals are made use of) (Bergo 2005; Helle 2015; Løkeland-Stai and Lie 2019). Subsidies should target *how* the land is used; diversified and locally adapted use-of-land subsidies as opposed to volume subsidies within a wider mineral economy. How this is thought to take place varies – especially in terms of governance. Where Bergo emphasises the rights of farmers to govern their own farming operations without state interference, Helle and Løkeland-Stai, and Lie argue a governed subsidy change will benefit farmers, change consumption habits, and have climate and ecological benefits.

In her critique of conventional agricultural policies, Helle makes clear the connection between consumption and production subsidies. She points out that Norway has a system built through artificial food consumption (2015). One example is the increasing consumption of chicken meat, produced exclusively from concentrate feed (some of which is imported, most notoriously soy from Brazil). What would happen if Norwegian agricultural policies changed, favouring local resources, grass-fed animals, for example by getting rid of the volume-centric subsidy mechanism like subsidising concentrate feed by making imported feed ingredients more expensive? Quoting one of her interviewees in the book, she outlines the consequences: ‘Lower meat consumption and less food waste. [...] Sustainable farmers are half the job. Without sustainable consumers, there is little point.’ (Helle, 2015, p. 179).

According to Løkeland-Stai and Lie, a necessary part of the use-of-land subsidy system is that farm-gate prices must go up – against the interests of the three dominant supermarket chains (NorgesGruppen, Coop, and Rema 1000) and established agricultural policy (2019). With these changes to agricultural policies, today’s level of meat consumption is impossible to maintain within the home market – which is why agricultural protections and restrictions on imported animal products are usually included in this alternative perspective. In other words, a transition toward post-productivist, eco-economic agriculture *implies* meat reduction as part of the process. Consumption itself emerges through the post-productivist perspective as a changeable, historically interactive process that may be governed, rather than an established institutional fact of the market (cf. Kjærnes 2011).

Consumption, Controversy, and Contested Sustainabilities

By exploring the logic of meat reduction controversies, we argue that there are two distinct notions of meat reduction at work in Norway. Conventional meat reduction elides the issue of political-economic change, while post-productivist meat reduction begins by rejecting the established political economy of meat and agriculture. Both are examples of contested sustainabilities in Norway, where ‘different economic strategies over natural resource use and value’ play out with rural areas as key arenas (Marsden, 2017, p. 21). We argue that the conventional and post-productivist perspectives rely on different notions of consumption.

Meat reduction with a conventional frame within a neoliberal capitalist ecology and the global mineral economy (what Marsden calls ‘bio-economy’) creates a specific form of contestation (cf. Marsden 2016, 2017). The controversies that ensue rarely address established conflicts and power structures that define present-day agricultural politics. Here, environmentalist interests are at odds with rural interests, consumers with producers, and urban perspectives with rural perspectives. Food system change is imagined as best undertaken through consumer change of habits that are seen to exacerbate existing issues in agricultural and peripheral regions in Norway. It appears to follow an understanding of meat reduction as a consumer responsibility, as if production, distribution, and consumption are understood separately (Kjærnes 2008; 2011). At the same time, agricultural and food policies operate with a neoclassical economic understanding of markets as demand-driven, obscuring the role those policies have in shaping and governing consumption changes. This view is ‘completely dominant’, and is characteristic of how consumption change is understood in a ‘self-regulating’ market; market-based solutions and indirect state regulation while supply-side drivers largely remain the same (Kjærnes & Vittersø 2015).

It presents a meat consumption paradox: the state is responsible for ‘facilitating consumer choice’ to eat less meat through information campaigns, while much of the food system, including crucial incentive-mechanism of agriculture, has been tightly governed and regulated to increase meat consumption (Ibid, p. 81). Meat reduction triggers resistance, frustration, and anger as it plays out over rural areas as an arena of sustainability transition when the economics of farming, rural interests, and the food system is overlooked. The paradox of meat consumption intersects with and amplifies contestation over conventional meat reduction measures.

Meat reduction within a post-productivist frame builds on ecological-economic limitations into its perspective on farming (or ‘eco-economic’ in Marsden’s terminology). It seeks to redress volume-centric subsidies and productivist policies as the wellspring of environmental, agricultural, and rural problems. It builds on a rejection of what Marsden calls ‘sustainable intensification’ – a centralised, intensified bio-economy that, for example, produces chicken meat with a lower CO₂ emission rate than grazing animals (2016). In this view, meat reduction is not primarily understood as a consumer measure or a reflection of market demand. Because high meat consumption is understood as ‘artificial’ (Helle

2015), an artefact of the productivist food system, meat consumption is seen as changeable – even somewhat fragile (Løkeland-Stai & Lie 2019). This view of consumption aligns with perspectives that see consumption as shaped by food culture, social practices, advertising, and packaging as much as agricultural policies and geography (Kjærnes, 2011; Rinkinen, Shove, & Marsden, 2020; Walker, 2014). Here, production and consumption are tightly linked; consumption remains an interactive process, both socially and institutionally contingent (Kjærnes 2011, p. 523).

Changing the logic of agricultural subsidies from volume toward use-of-land is understood to dramatically impact Norway's relationship with the everyday use of meat and farmers' incomes. Building on an interactive definition of meat consumption, this is imagined to occur within an economic sustainability transition in agriculture that responds to rural discontent with centralisation, depopulation, and state withdrawal. This stands in contrast to 'sustainable intensification' policies favouring effectivised chicken and pork production increasingly owned by larger corporate actors and supermarket chains.

Whether in Norway, the Netherlands or elsewhere, understanding protests and contestations surrounding sustainability transition and meat reduction measures is a useful tool to carve a path through conflict that appears locked and insurmountable. Identifying the role played by distinct definitions of consumption is an integral part of this. As we have seen, where we find a more interactive and institutional definition of meat consumption, we also find meat reduction as a possibility – even as a desirable political goal among rural voices. Here, meat consumption is understood to reflect the current food system; meat is institutionalised in subsidies and embedded in the logic of agricultural governance as much as it is in everyday consumption.

By extension, this more interactive and institutional concept of consumption opens opportunities for a notion of meat reduction that is less divisive and controversial. We argue that sustainability transition through meat reduction would do well by acknowledging how meat consumption has already been shaped over time before we can adequately begin to shape it democratically. Policymakers committed to reducing meat consumption should not only urge consumers to reduce their intake but also develop a plan to shift away from the meat-centric model of production that has been in place for the past 70 years, which would benefit rural livelihoods.

Conclusion

Meat reduction measures and suggestions in Norway have been embroiled in seemingly irreconcilable differences and controversies between voices claiming environmental and agricultural values in recent

years. In this article, we argue that the controversial nature of meat reduction is neither built-in nor reflects the inherent status of meat. Rather, the controversy of meat reduction reflects 1) a limited, neoclassical understanding of consumption as a response to market mechanisms, 2) indifference toward or ignorance of rural histories of industrialisation and centralisation, and 3) a lack of interest or knowledge of supply-side drivers of meat consumption like volume-centric subsidies within conventional, productivist agriculture. Meat reduction understood primarily as a consumer measure within a ‘self-regulating’ food system, where producing greater volumes of meat is necessary for farmers’ economic survival, is one of the paradoxes that undergird polarisation.

To make this argument, we have looked at the public debate on meat reduction through the lens of controversy studies. In analysing the responses to the meat-reduction measure from Climate Cure 2030 and to EAT-Lancet’s dietary suggestions, we found authors and activists, municipalities and counties, outlining why meat reduction is undesirable or impossible. We then interpreted those responses as reflecting conventional meat reduction; regulatory measures were understood to influence consumption without simultaneous political changes to Norway’s productivist agri-political system. This rests on neoclassical concepts of consumption as market-driven, where demand is exogenously given (Rinkinen et al. 2020). In rural historical experience, this form of meat reduction is seen to accelerate uneven processes of centralisation, playing into precisely the socio-economic changes that underlie contemporary rural discontent and protest. More pointedly, conventional meat reduction is like ‘pulling the plug’ on a patient in a respirator – a metaphor for overreliance on volume-centric subsidies.

Post-productivist meat reduction, however diverse these views may be, views meat consumption as part and parcel of a larger agri-food system transition in an alternative political framework. Critics like Bergo, Helle, and Løkeland-Stai and Lie seek alternatives to the bio-economic logic of productivist agriculture. By rejecting volume-centric subsidies that aid high meat consumption, farm closures, and rural decline, they address the point of controversy that characterises conventional meat reduction. In addition to paying attention to the adverse health effects of overconsuming meat, post-productivist meat reduction stakeholders envision a reengineering of subsidies to reward production methods based on the area, animal, and soil’s carrying capacity rather than production volume propped up by imports of feed ingredients in a global mineral economy.

The analysis presented here has several implications. In a conventional frame, barriers to meat reduction are either (or both) rural and farmer resistance to sustainability transition or uninformed consumers’ behaviour and choice (Austgulen et al., 2018). In a post-productivist frame, a key barrier to meat reduction is the conventional narrative of meat reduction and its use of neoclassical economic concepts of consumption as reflections of supply and demand market mechanisms. The post-productivist meat reduction requires that production, consumption, retail, and food policies are aligned

in their efforts to achieve a sustainability transition without deepening societal divisions; changes must occur simultaneously and interactively.

To organise our thoughts on meat reduction in Norway and move beyond the repeated clashes of dispiriting media controversy, a necessary starting point is a more contextual understanding of how meat consumption is construed and constructed over time. How has it changed in the past, and how may it be changed in the future? Navigating through contested sustainabilities shows that polarization might make things seem locked and unchangeable. How ‘consumption’ is understood and who gets a say in what is considered sustainable or not is a crucial and impactful part of how future food strategies will evolve in Norway and elsewhere.

References

- Aamaas, R. H. (7th December 2022). *Halvert kjøttforbruk er ikke løsningen i Norge*, Nationen
- Aass, L. 21.02.2020. *Ubegrunnet kritikk mot NMBU-rapport om EAT-Lancet*.
Nationen.no/#motkultur. Url: <https://www.nationen.no/motkultur/debatt/ubegrunnet-kritikk-motnmbu-rapport-om-eat-lancet/>
- Aass, L., 2019. *EAT-Lancet rapporten og «The Global Reference Diet»: konsekvenser for norsk landbasert matproduksjon, matsikkerhet og bærekraft*. NMBU - Norges Miljø- og Biovitenskapelige Universitet.
- Agri Analyse, 2021. *Landbruksbarometeret 2021*. Agri Analyse Research Report
- Almås, R & Fuglestad, E. M., 2020. *Distriktsopprør: periferien på nytt i sentrum*. Dreyers forlag.
- Almås, R. and Campbell, H. (Ed.) 2012. *Rethinking Agricultural Policy Regimes: Food Security, Climate Change and the Future Resilience of Global Agriculture*, Emerald Group Publishing Limited, Bingley.
- Almås, R., 2002. *Norsk landbrukshistorie: Frå bygdesamfunn til bioindustri*. Oslo: Samlaget.
- Almås, R., 2004. *Norwegian Agricultural History*. Tapir Academic Press.
- Almås, R., 2016. *Omstart: Forslag til ein ny landbrukspolitik*. Melhus: Snøfugl.
- Almås, R., Fuglestad, E. M., & Melås, A. M. 2020. *Dei nye distriktsopprøra i lys av varige konfliktlinjer i norsk politikk*, in Almås, R & Fuglestad, E. M. «Distriktsopprør: periferien på nytt i sentrum». Dreyers forlag.
- Austgulen, M. H., Skuland S.E., Schjøll A., and Alfnes, F., 2018. *Consumer readiness to reduce meat consumption for the purpose of environmental sustainability: insights from Norway*. Sustainability 10 (9):30-58
- Bailey, R., Froggatt, A. & Wellesley, L., 2014. *Livestock – Climate Change’s Forgotten Sector. Global Public opinion on Meat and dairy Consumption*. Chatham House, The royal institute of international affairs.
- Bendz, M. 2022. *Glade dyr og levande jord: korleis bøndene kan bidra til klimaløysinga*. Skald Forlag

- Bergo, H. 2005. *Avviklinga av den norske bonden: det korporative jordbruksavtalesystemet*. Vestlandsforlaget.
- Bergo, H. (1976) *Norsk jordbruk: en økonomisk slagmark*. Samlaget, Oslo
- Bondeopprøret foundational document, 2021. *Bondeopprøret*. Accessed at: [Hjem - #BONDEOPPRØR \(bondeoppror.no\)](#)
- Bosma, & Peeren, E. (2021). *Proudofthefarmer*, in 'Politics and Policies of Rural Authenticity'. Taylor & Francis. <https://doi.org/10.4324/9781003091714-10>
- Boztas, S. (18th November 2022). *Dutch pro-farming party fires up the anti-establishment vote*. The Guardian, Url: <https://www.theguardian.com/environment/2022/nov/18/dutch-pro-farming-party-fires-up-the-anti-establishment-vote>
- By, E. L., & Aamaas, R. H. 2021. *Spiser vi for mye kjøtt?* Nationen.no/#motkultur. Url: <https://www.nationen.no/motkultur/kronikk/spiser-vi-for-mye-kjott/>
- Cottis, T. (2020). *Oppsummering av debatten om Eat-Lancet*. Nationen.no/#motkultur. Url: <https://www.nationen.no/motkultur/debatt/oppsummering-av-debatten-om-eat-lancet/>
- Cottis, T. & Sjøberg, L. E. K. P. (21st november 2022) *Mener halvert kjøttforbruk kan øke norsk selvforsyning*. Nationen
- Dalseg, E. (17th January, 2019), *Gunhilds EAT-rapport sjokkerer: - Kjøttmiddag bare to ganger i måneden*. VG national newspaper
- Dibb, S., & Fitzpatrick, I. 2014. *Let's talk about meat. Eating Better*, available at: www.eatingbetter.org/uploads/Documents/Let'sTalkAboutMeat.pdf (accessed 20 September 2017).
- Dijkstra, L., Poelman, H., & Rodríguez-Pose, A. (2020) *The geography of EU discontent*, *Regional Studies*, 54:6, 737-753, DOI: 10.1080/00343404.2019.1654603
- Directorate of Health, 2022. *Helsedirektoratets Kostholdsrad*. Url: <https://www.helsenorge.no/kosthold-og-ernaring/kostrad/helsedirektoratets-kostrad>
- Flemonsæter, F., H. Bjørkhaug og J. Brobakk., 2017. *Farmers as climate citizens*. *Journal of Environmental Planning and Management*, 61(12): 2050–2066. <https://doi.org/10.1080/09640568.2017.1381075>
- Flø, B. E., 2020. *Kjensla av ran*, in Almås, R & Fuglestad, E. M. «Distriktsopprør: periferien på nytt i sentrum». Dreyers forlag.

- Fuglestad, E. M., Almås, R., 2020. *Har norsk jordbruk ein plass i eit klimanøytralt Noreg? - fokus på mjølk og raudt kjøtt*. Nytt Norsk Tidsskrift; Volume 37.(1)
- Haga, G. 1978. *Avviklingsbonden og hans representantar: 30 års forspel til Hitraaksjonen*. Cultura: Oslo
- Haga, G. 2009. *Jordbruket: korporativ pluralisme intakt*. Nytt Norsk Tidsskrift. Vol.2, p.170–177
- Helle, S., 2015. *Skal landet gro att? Korleis berge norsk jordbruk*. Oslo: Dreyer Forlag.
- Holligan, A. (29th July 2022). *Why Dutch farmers are protesting over emissions cuts*, BBC.com. Url: <https://www.bbc.com/news/world-europe-62335287>
- Jasanoff, S., 2019. *Controversy Studies* in ‘The Blackwell Encyclopedia of Sociology’, John Wiley & Sons
- Kanerva, M. (2013). *Meat consumption in Europe: issues, trends, and debates*. (artec-paper, 187). Bremen: Universität Bremen, Forschungszentrum Nachhaltigkeit (artec). <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-58710-6>
- Kanerva, M. (2022). *Consumption corridors and the case of meat*. Journal of Consumer Policy, 1-35.
- Kjærnes, U., 2008. *Regulating Food Consumption: Studies of change and variation in Europe*. Doctoral Thesis. [National Institute for Consumer Research](#).
- Kjærnes U., 2011. *Consumption and Self-Regulation*. Tidsskrift for Samfunnsforskning, Vol.52, Iss.4. Universitetsforlaget
- Knutsen, H. et al., 2021. *Utsyn over norsk landbruk. Tilstand og utviklingstrekk 2021*. NIBIO BOOK 7 (4)
- Kuhn, T. S. (1962). *The structure of scientific revolutions*. University of Chicago Press: Chicago.
- Løkeland-Stai, E., & Lie S. A. (2019). *Mellom Bakkar og Kjøttberg*. Oslo: Manifest
- Lønning, D., & Lønning, M. (2017). *Jordboka: Det fantastiske universet under føtene våre*. Sirevåg: Forlag Nyskaping.
- Marsden, T. (2016) *Exploring the Rural Eco-Economy: Beyond Neoliberalism*. Sociologia Ruralis, 56(4), 597–615. <https://doi.org/10.1111/soru.12139>

- Marsden, T. (2017) *Agri-Food and Rural Development: Sustainable Place-Making*. Bloomsbury Academic
- Melås, A. M. (09.08.20). *Klimakrangel om rødt kjøtt*. Nationen.no/#motkultur. Url: <https://www.nationen.no/motkultur/kronikk/klimakrangel-om-rodt-kjott/>
- Mittenzwei, K., Walland, F., Milford A.B., and Grønlund A., 2020. *Klimakur 2030: Overgang fra rødt kjøtt til vegetabilsk og fisk*, NIBIO Research Report
- Nelkin, D. 1971. *Nuclear power and its critics. The Cayuga Lake controversy*. Cornell University Press; Ithaca, N. Y
- Nordbø, D., 15th February 2021. *Ja til kjøtt, for pokker!* Vg.no. Url: [Debatt: Ja til kjøtt, for pokker! – VG](#)
- Norges Bondelag, 15.04.2020. *Landbrukets Klimaplan*. Norgesbondelag.no. Url: <https://www.bondelaget.no/bondelaget-mener/miljo-og-klima/klima/landbrukets-klimaplan>
- NRK TV, 5th september, 2018 · *Kjøtt: Kan vi spise kjøtt med god samvittighet eller burde alle bli vegetarianere?* Folkeopplysningen, NRK TV educational documentary. NRK. Url: <https://tv.nrk.no/sok?q=kj%C3%B8tt>
- NTB, 26th March 2021. *Bollestad: Vi spiser ikke for mye kjøtt*. E24.no
- Rinkinen, J., Shove, E., & Marsden, G. (2020). *Conceptualising Demand: A Distinctive Approach to Consumption and Practice* (1st ed.). Routledge. <https://doi.org/10.4324/9781003029113>
- Torgersen, U., 18th February 2021. *Folk vil ha kjøttkutt, Nordbø!* Vg.no. Url: [Debatt: Folk vil ha kjøttkutt, Nordbø! – VG](#)
- Uleberg, E., & Dalmannsdottir, S., 2018. *Klimaendringenes påvirkning på landbruket i Norge innenfor ulike klimasoner*. Nibio Research Report. Vol. 4. Nr. 75.
- Vik, J. (2020). *The agricultural policy trilemma: On the wicked nature of agricultural policy making*. *Land Use Policy*, 99, 105059–105059. <https://doi.org/10.1016/j.landusepol.2020.105059>
- Vittersø, G., & Kjærnes, U. 2015. *Kjøttets politiske økonomi - usynliggjøring av et betydelig miljø- og klimaproblem*. *Sosiologi I Dag*, Vol 45, nr.1.
- Walker, G. (2014). Beyond individual responsibility: Social practice, capabilities, and the right to environmentally sustainable ways of living. In *Social Practices, Intervention and Sustainability Beyond behaviour change* (pp. 45-59). Routledge.

Willett, W, Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S. Garnett, T., Tilman, D. et al., 2019. *Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems*. Lancet 393:447-492