THE ETHICAL CONSUMER

CLIMATE DAMAGING FOODS

THE DANISH COUNCIL ON ETHICS
The Ethical Consumer
Climate Damaging Foods

The Danish Council on Ethics 2016

Front page design and illustrations
by The Danish Council on Ethics and Grafiraf
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The Danish Council on Ethics' recommendation on climate damaging foods

The Council presents its recommendations on whether the choice of consuming climate damaging foods should be left to “The Ethical Consumer”, or whether societal regulation should be implemented in order to reduce the climate impact from food consumption.

The ethical problem in contributing to climate change is due to the fact that they seriously harm other human beings. Our freedom of choice is restricted by the requirement not to cause serious harm to others, but evidence is mounting that the production of certain types of food has exactly this effect. This calls for us to discuss if we are ethically obliged to take this into consideration in our food consumption – and in which ways.

Contemporary Danish way of life is far from sustainable in respect of our climate impact, and Denmark has through international agreements in the UN and the EU made commitments to reduce climate gas emissions by 80–95 % by 2015 compared to 1990 levels. To reach this goal it is indispensable to include the food sector, which contributes 19–29 % of total emissions.

A moderate dietary change primarily directed at limiting beef consumption would make a major difference since cattle alone accounts for 10 % of total anthropogenic greenhouse gas emissions. In view of this a large majority of Council members find that the Danes have an ethical obligation to alter their food consumption accordingly. Whether the responsibility falls on the individual consumer is, however, disputed, and a number of factors casts doubt about the efficiency of laying the choice to the consumer:

- The individual's effort *in itself* makes only a very small difference for nature and the climate. It makes many people feel their efforts have no real effect.
- This tendency is intensified by the fact that many become discouraged when they see that others fail to take their share of the responsibility.
- The lack of support could be interpreted as a modern version of the so-called 'tragedy of the commons': The individual may perceive it as their self-interest to consume as much as possible and thus emit as much
greenhouse gas as possible into the atmosphere, but when everyone is doing the same, the climate is destroyed to the detriment of all.

- Climate changes are 'far away' in space and time from the act itself (e.g. eating a beef), and the harm done to others is indirect and in the future, which makes it difficult to relate to at the supermarket counter.
- Climate-damaging foods are in reality too cheap since the costs of externalities such as restoration of climate damage are not reflected in the price. The financial incentive that ought to be in place to pursue climate-minded acts simply is non-existent.

For an effort to lower climate damaging foods to be efficient and at the same time raise awareness about the climate challenge, it needs to be united, which calls for society so send a clear signal through legislation. This leads the Council to the following recommendations:
Recommendations

Climate-damaging foods are in an area of great consensus in regard to the evidence:

- According to the IPCC, anthropogenic activities are with 95 % certainty the predominant cause of the global warming observed since the middle of the 20th century.
- Climate changes will decisively change the living conditions on the planet, e.g. bringing progressive incidents of extreme weather phenomena, drought, sea level rises, loss of ecosystems and biodiversity including species, climate refugees and a higher degree of threats to human living conditions.
- Food accounts for a large share of anthropogenic climate changes, 19–29 % of global anthropogenic greenhouse gas emissions.\(^1\)
  - From this, the livestock sector alone accounts for 14.5 % of human greenhouse gas emissions, of which beef production accounts for 41 % of the sector's emissions, while dairy cattle accounts for 20 %.\(^2\)
- Dietary changes towards less consumption of meat from ruminants in countries like Denmark could reduce greenhouse gas emissions from food by 20–35 %.\(^3\)

As mentioned the food sector accounts for 19–29 % of the current global greenhouse gas emissions, and since there are great differences between the climate impact of various foods, consumers can reduce this figure considerably by converting to a more climate-friendly diet. The Council therefore considers if the Danes, either as individual consumers or in solidarity through the establishment of a regulation system, should take responsibility to reduce the consumption of climate-damaging food.

One instrument to secure a joint effort could be regulatory measures that would reduce demand for climate-damaging foods. Such regulation could be engineered in different ways and introduced in either the production chain or the consumption chain. Since the topic of this report is 'The Ethical Consumer', the Council has primarily discussed the possibilities of regulation on the level of consumption. The most optimal solution would probably be to introduce an incremental tax, according to which foods are taxed based on their degree of

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1 Vermeulen, Sonja J. et al. 2012, 198
2 FAO 2013, 15–16
3 Hallström et al. 2015, 2ff
climate impact. However, the Council acknowledges that such a tax would be administratively difficult to introduce because of local variations in climate impact within each group of foods. To introduce such a system would therefore not be realistic in the short term. In consequence, the Council has discussed a solution that should be feasible to implement and which should be able to produce noticeable effects in the short term. Since meat from ruminants – in Denmark predominantly cattle – is in a category of high climate impact that is very far from the other food categories, a tax on this type of meat would be the right place to start according to a majority of members. Research suggests that a reduction in the consumption of beef alone would produce considerable effects, and such a tax could moreover send a signal to the Danish society that it ought to give very high priority to reducing the climate impact of foods.

The Council members who suggest using a tax as a means to reduce the climate impact of foods are indeed aware that their task is to identify ethical problems that need to be addressed, but they acknowledge that the authorities would be best suited to work out the details of any taxes, including taking Danish and EU law into account.

On the question of whether climate-damaging foods should be left to the ethical consumer or made a joint responsibility, the members have differing opinions:

1. **Climate-damaging foods should be regulated by means of taxes**

A majority of 14 members (Jacob Birkler, Lillian Bondo, Jørgen Carlsen, Mickey Gjerris, Gorm Greisen, Poul Jaszczak, Thomas Ploug, Lise von Seelen, Christian Borrisholt Steen, Karen Stæhr, Steen Vallentin, Signild Vallgårda, Signe Wenneberg and Christina Wilson) find that the consumers have an ethical obligation to consider the climate through their eating habits. This obligation motivates taxes on climate-damaging foods in the consumption chain or the production chain because it could have a positive effect on greenhouse gas emissions as pricing is known to be a decisive factor in consumer choices.

The imposition of taxes would signal that the moral responsibility to reduce greenhouse gas emission should be shouldered by the consumers in solidarity. The individual consumer has no possibility of curbing climate change by changing the way he or she eats. It is not the specific piece of meat that the consumer is buying that causes the damage; its impact is microscopic and only has damaging impact together with all the other consumers' contributions. If a person is not confident that other consumers will take responsibility to buy climate-friendly products, it would not be rational for him or her to do it. But given the problems that certain foods are described to cause, everyone has an obligation to contribute to the implementation of effective, collective measures to make overall food consumption less damaging to the climate.
Taxes should moreover be considered justifiable since climate-damaging foods are currently priced too low when taking into account the societal costs they entail. There are externalities, in the form of costs to reduce the consequences for those who are affected by climate change, which are not included in the price of the product. It is unfair that these costs are not paid by those who consume the products but by those who are harmed by the climate changes. With this in mind, taxes could be seen as a form of price correction. Politicians should decide to earmark the revenues from the taxes for climate initiatives that either prevent or restore the harmful effects of global warming.

The main reason why climate change is an ethical problem is because it harms other people and nature. It therefore poses a serious threat to both the development of the global society and to nature. We are already feeling the consequences of climate change in the form of extreme weather phenomena that inflicts major costs on human beings and on ecosystems.

Finally, the impact of greenhouse gas emissions will be even stronger in the long term, and the effects will strike unevenly and unfairly. Those with the lowest emissions – namely the world’s poorest who have a very low consumption – will be hit the hardest. Next in line are the future generations, who have neither contributed to the emissions. Especially we, living today in the richest part of the world, are passing the bill on to people in the poorest parts of the world and to future generations.

**Responsibility should be supranational**

All 14 members agree that joint international initiatives should be pursued to reduce greenhouse gas emission from food, because it is a supranational concern, and emissions are blind to national borders. Effective efforts should therefore be international, and the members encourage the Danish government to work for such agreements in order to reduce the climate impact of food.

— but the Danes should lead the way

These 14 members, however, worry that supranational efforts in this area would take too long to put in place. Denmark should therefore lead the way by imposing taxes, since initiatives that will work in the short term are critical to prevent developments from spinning out of control.

One way of doing this would be to put a tax on beef in the consumption chain because it would elucidate the problems to the consumers as well as effectively curb consumption. It could also help raise awareness in the area and in the long term make it possible to introduce other or additional climate-friendly measures related to food consumption and food production. Ideally,
taxes should be imposed on any food based on its degree of climate impact, but in the short term, putting a tax on the most climate-damaging food, meat from ruminants, would probably be the most feasible solution. A further argument in support of this strategy is that it is unproblematic to consume a healthy and nutritional diet without beef.

A tax on consumption, the focus of this report, has the advantage of striking all beef equally, whether imported or produced in Denmark. That way, the tax can be imposed in Denmark without distorting competition, which would otherwise be the case if the tax was imposed in the chain of production.4

Every consumer has an ethical responsibility for his consumption

Some of these members (Jacob Birkler, Mickey Gjerris, Gorm Greisen, Lise von Seelen, Signild Vallgård and Signe Wennberg) find that whether or not a tax is implementable, individuals should take action if they become aware that their behaviour is causing harm to others. They believe that regardless of the many aspects that make it difficult for the individual to pursue responsible consumerism, the consumer has a responsibility to eat as climate-friendly as possible. Human beings should always strive to do their best in everything they do. If we acknowledge that ethically we should emit less greenhouse gases, we should do what we can to emit less greenhouse gases in our everyday lives.

Also, the consumption choices of individual persons play a part in forming an everyday culture, especially because the signal you send by eating climate-damaging food is that this behaviour is socially acceptable, which could contribute to the persistence of a problematic consumption pattern.

Finally, these members also find that the political will to impose taxes could grow stronger through pressure from the citizens — and that this pressure arises when the individual citizen starts acting on his or her conviction.

Other measures

All 14 members emphasise that their recommendations are intended to send a signal to the politicians that effective measures are needed in the area. Many different measures will be needed to curb climate change, and the taxes proposed should not be the only measure. The Council has discussed various possibilities without taking specific positions thereon:

4 The latter tax would, if implemented in Denmark exclusively, make Danish products more expensive while imported, climate-damaging products would be exempt from the climate tax and thus would be too cheap compared to their degree of climate impact. Some consumers would choose these climate-damaging products over Danish climate-friendly products because of the price. About this, see Säll, Sarah et al. 2015, 42
• Taxes on climate-damaging foods could be combined with subsidies on the least climate-damaging foods to further promote climate-friendly eating habits.
• Measures against food waste could also be considered; here taxes have an added benefit by discouraging excessive buying.
• Public authorities could make it mandatory for their institutions to introduce meat-free days or offer very little meat from ruminants.
• Conversion subsidies could be offered to farmers wanting to convert to a more climate-friendly production, possibly financed fully or partly by climate tax revenues.

2. The climate impact of foods should be reduced markedly through common regulation, targeting consumption and production in Denmark and internationally

One member (Kirsten Halsnæs) finds that the reduction of the global climate changes to not exceed 2 °C, as intended by the climate agreement in Paris, would require major efforts in all sectors, including agriculture and food, to reduce greenhouse gas emissions. Here, both national and international efforts as well as a joint EU strategy are needed. While the consumers' food choices are important, the efforts and the responsibility of ethical consumers should be seen also in the light of the overall reduction measures in the agricultural sector. Effective efforts to reduce greenhouse gas emissions would imply that they are reduced in the production of foods directly, and that consumers additionally choose climate-friendly diets with a larger share of vegetables. Such reduction of greenhouse gas emissions can be promoted through a line of instruments, including incremental taxes based on greenhouse gas emission, which ought to be directed at all sources in the food production. Isolated taxes on meat are not recommendable. Nor would a tax on beef alone seem economically viable or suitable for the environment. If, for example, a tax on meat was imposed, demand for pork could increase as a result, potentially causing other environmental problems. It is important to encourage collective solutions to greenhouse gas emissions, and it could be unproductive for these collective solutions to put special emphasis on an individual, moral consumer responsibility that could end up shading the extremely challenging efforts required to develop climate-friendly foods.

3. The choice of climate-damaging foods should be left entirely to the ethical consumer

One member (Anders Raahauge) does not find that there is sufficient evidence in support of measures against the consumer’s choice of food. The member draws attention to the matter that there is uncertainty about whether the observed climate changes are anthropogenic – a view expressed by a minority of climate researchers, oceanographers, geologists and astrophysicists. The
member finds that when there is dissenting opinion among scientists in a field – also when researchers’ opinions are extremely asymmetric – we should be cautious when we express ethical positions. Minorities have drawn the longest straw before, and all serious researchers indeed agree that uncertainty is known to affect climate models.

If humans are not unequivocally the cause of climate changes, then they should not be imposed a special consumption pattern, the member claims, adding that the choice of what to eat has traditionally been left to the individual citizen. Neither the state nor anyone else should interfere with how people choose to live their lives.

Nor should a labelling system be introduced, as it would be costly and the costs would affect all consumers. Consumers who wish to buy climate-friendly products should gather their own information about which products are considered harmful to the climate.
Minority statement

Disclaimer: One member, Lene Kattrup, has decided not to be part of the report’s chapter/case about climate-damaging foods since it contains some fundamental premises, assumptions and perspectives as well as conclusions that the member does not support. The Council is aware that questions of animal welfare generally fall outside the mandate of the Danish Council on Ethics, and that questions about ecology are outside the scope of the working group’s terms of reference. The statement therefore expresses the member’s own views.

The member makes the following three recommendations on climate-damaging foods.

Recommendation to put a tax on meat and promotion of organic production

Lene Kattrup supports a tax on meat\(^5\), but wants to exempt organic meat based on a view that we ought to strengthen long-term sustainability with a focus on the environment and on nature, vegetation and wildlife, biodiversity, water resources and groundwater protection, etc.\(^6\)

In some areas, organic farming has climate benefits compared to conventional farming. There is a higher share of grassland, successive crops and green manure crops that increase carbon deposits, a better soil structure reduces the emission of nitrous oxide, and there is no use of pesticides and chemical fertilisers, which both require energy to produce.\(^7\)

There are many indications that there is a better balance in the nitrogen conversion, preservation of the soil’s fertility and health and furthermore that there is no or little import of concentrates, e.g. soy, from South America or Asia.

In these areas, the member finds that organic farming must be assessed as more sustainable than conventional farming and to be a more right way to go.

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\(^5\) The tax should be allocated to the restoration of the environment, improved animal welfare in conventional livestock production as well as research in the development of new and more sustainable production methods in livestock farming.

\(^6\) About long-term sustainability, see UNCTAD Trade and Environment 2013: ‘Wake up before it is too late, make agriculture truly sustainable now for food security in a changing climate’. Full report. Quote from press release on 18 September 2013: ‘The report stresses that governments must find ways to factor in and reward farmers for currently unpaid public goods they provide – such as clean water, soil an landscape preservation, protection of biodiversity and recreation’, ‘The Trade and environment Report 2013 recommends a rapid and significant shift away from conventional, monocultural-based Industrial production of food that depends heavily on external inputs such as fertilizers, agro-chemicals, and concentrate feed’. Information (Newspaper), commenting on the report on 10 September 2014: "The UN finds that in the long-term global perspective, conversion to organic farming is the only sustainable way for the earth." Also see pp. 100-102 in [http://www.etiskraad.dk/~/media/Etisk-Raad/en/Publications/Report-on-bioenergy-food-production-and-ethics-in-a-globalised-world-2012.pdf](http://www.etiskraad.dk/~/media/Etisk-Raad/en/Publications/Report-on-bioenergy-food-production-and-ethics-in-a-globalised-world-2012.pdf)

\(^7\) Det Svære Valg [The difficult choice], Danish Council on Ethics, 2015, Chapter ‘Fødevarernes klima og miljøbelastning’ [The climate and environmental impact of foods] by Jørgen E. Olesen specially p. 46
For these and other reasons, organic farming as such should not (nor should meat production) be weighed down by extra burdens, but should be promoted instead, the member finds.

There are already a number of negative externalities and environmental impacts, which especially are not included in the price of conventionally produced foods, which means that organic food products—not least meat—are considerably more expensive than they need to be if the market regulations were working optimally and were economically viable—and ethically viable—in the long term. If we put a tax on organic meat, we run the risk that organic farming will be facing even fiercer market terms than today and will even be repressed.

It should be taken into account that several surveys have shown that organic consumers already consume and eat less meat, but more vegetables, than other consumers. The consumption pattern of the individual consumer is important and ultimately decisive for the size of production. It seems there are no great differences between greenhouse gas emissions of organic and conventional production, but the consumption pattern of the organic consumer is more climate-friendly.

If you reduce your meat consumption by one third, eat more vegetables, throw out less food and buy more local products, you can help reduce the environmental and climate impact of food by up to 25-50%.

As mentioned by some researchers, the relationship between intensive and conventional production versus organic livestock production is not clear when it comes to climate impact. The greenhouse gas emissions from livestock depend on the type of species and the way the animals are kept. If ruminants, which as far as we know have the highest impact on the climate, pasture on well-kept and permanent grassland like they do in organic farming, these areas may deposit such large amounts of carbon that in some cases it compensates for the methane emitted by the animals. In case of dairy cows, the climate impact will be less than the production of meat from the animals. Grassland and multiannual crops generally produce less nitrogen leaching, which is good for the climate and the environment.

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8 About externalities, see Det Svære Valg [The difficult choice], 2015, Chapter ‘Markedet behøver hjælp, hvis etikken skal med’ [The market needs help, but ethics should come along] by Kirsten Halsnæs

9 Klima og Etik [Climate and ethics] by Jesper Ryberg et. al. 2011 Roskilde Universitetsforlag, Chapter ‘Kød og klima – bør vi blive vegetarer for at modvirke den globale opvarmning, eller er det godt nok at spise økologisk?’ [Meat and climate—should we become vegetarians to mitigate global warming, or is it sufficient to eat organic food?] by Peter Sandae, Jørgen E. Olesen et. al. pp. 111-113

10 Department of Food and Resource Economic (IFRO) and Research Center OPUS, University of Copenhagen, by Henrik Saxe ’Madens klima- og miljøbelastning kan mindskes med en tredjedel’ [The climate and environmental impact of food can be reduced by one third] [http://ifro.ku.dk/aktuelt/madogklima/ og Am J Clin Nutr May 2014 side 7 http://ajcn.nutrition.org/content/99/5/1117]
Some find that the climate impact of foods will generally diminish through intensification. The member does not always find this to be the case. An increase in the productivity of livestock production will often be a threat to animal welfare as well as negatively impact on the climate and the environment in many different ways, e.g. through the use of pesticides, chemical fertilisers and imports of protein-heavy soya with forest clearing in the third world to obtain cultivation areas, which is highly damaging to nature, the environment and the climate. And if increased intensification does nothing but provide cheaper products and increased consumption, then we are back to square one.

Lene Kattrup points out that in her opinion, animal welfare is usually better protected in organic farming, which is another argument in favour of strengthening organic alternatives. How we treat the animals in our care reflects the development stage of our civilisation. It will also rebound on us as human beings if we accept and promote the keeping of animals under disgraceful and poor animal conditions in order to achieve high effectiveness and an unnaturally high yield.

Finally, some studies indicate that there may be health benefits associated with eating organic foods, e.g. due to a lower content of pesticides and heavy metals and a higher content of antioxidants. Other studies have not been able to establish differences. The member recommends to promote research in this area, as a lot of knowledge is missing.  

Recommendation to reduce food waste and avoid excessive consumption and limit packaging

Lene Kattrup recommends government initiatives to reduce food waste throughout the supply chain, a strongly intensified focus on avoiding excessive food consumption as well as reduce the use of food packaging and reduce greenhouse gas emission from production, processing and transport of food, e.g. through initiatives to promote increased use of locally produced food.

Overpopulation/birth rate restriction

Lene Kattrup recommends the government to pursue initiatives for a more viable population development, i.e. birth rate restriction. Today, the world’s population is 7.3 billion people, estimated to reach 9.7 billion in 2050. In Africa alone, 28 countries are estimated to double their populations by 2050. The IPCC and others point to the population growth as one of the causes of global

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11 Baranski M et al BR J Nutr Sept 2014, ‘Higher antioxidant and lower cadmium concentrations and lower incidence of pesticide residues in organically grown crops: a systematic literature review and meta-analyses’
climate problems. The member finds that aid to developing countries should be given in return for birth rate restrictions in the recipient country.

1. The impact on climate from food production

In the later years there is a growing acknowledgement that the production of certain food types is a major contributor to anthropogenic climate changes. Food products alone account for 19%–29% of global anthropogenic greenhouse gas emissions13, of which the livestock sector accounts for 14.5%. 41% of this sector’s emissions come from beef production, while dairy cattle account for 20%.14 This means that cattle alone account for about 10% of the total anthropogenic greenhouse gas emissions. So, major benefits could be achieved for the climate – and thus for all the people who are affected by global warming – if especially the populations in the western countries were to convert their food purchases to more climate-friendly behaviour. Principally, if they consumed far less meat from especially ruminants, which emit large amounts of the powerful greenhouse gas methane. This acknowledgement has only just started to spread within recent years. Politically, the focus has been on the burning of fossil fuels, and the food area is left entirely to the ethical consumer today. The question is if it is an individual responsibility to move food consumption in a climate-friendly direction, and if such a strategy has any chance of success.

We may describe the climate as a common public good that is freely available to every human being on earth. It implies that a country investing in the reduction of greenhouse gas emissions to mitigate dangerous climate changes will have to share the benefit with all other countries. Since most countries separately are sources of greenhouse gas emissions, it may seem a Sisyphean task to act alone to reduce them, which is also why the UN’s Climate Change Convention of 1992 was adopted as the framework for joint international action. Common goods are often linked to the problem known as the tragedy of the commons; farmers who share a common grazing land, each has a rational self-interest in putting their animals out to pasture, the result being that the commons are overgrazed if they fail to collaborate on how to manage it. If collaboration is not secured, the act of one party may appear loss-generating or useless. In many ways, this description calls to mind the international climate negotiations: Most countries want to reduce greenhouse gas emissions to avoid the extensive consequences of continued warming, but

13 Vermeulen, Sonja J. et al. 2012, 198. The figure includes all stages of food production as well as packaging, transportation, sales links and the consumer’s processing as well as waste disposal.
14 FAO 2013, 15–16
they prefer other countries lifting a large part of the burden.

And while the parties are negotiating, global warming is increasing. This has made a small number of consumers take responsibility by taking climate-friendly action through their food consumption, but their efforts are inhibited by the fact that it is difficult to figure out which foods are most climate-friendly. On top of that, the individual’s choice makes no real difference, as only joint efforts will yield measurable effects when it comes to slowing down climate change. Some refer to this as choosing to turn a blind eye to the consequences of our acts because it would be costly for the individual consumer to change behaviour.15 Probably, we would feel deprived at first if we had to stop eating climate-damaging foods that we have grown accustomed to. Most likely, it is factors like these that may explain why it is still only a rather small group of consumers who think of the climate in food choices.

In the following, we will review current knowledge about the extent of anthropogenic climate change, including the perspectives for the living conditions on earth if greenhouse gas emissions are not reduced. As mentioned, food products contribute to emissions by 19–29 %, and we look at the possibilities of reducing these emissions through changes in food consumption.

The Council will consider the ethical consumer’s responsibility to tackle the serious problem created by climate changes. Should each and every consumer assume responsibility to switch to a more climate-friendly diet, given the obstacles of learning a complex area and given the fact that the individual’s contribution alone results in no immediate measurable effect in the big climate picture? Or are the ethical problems of global warming of such magnitude that the state should take initiatives to make the Danish population choose more climate-friendly food alternatives?

Global warming

In the scientific society a remarkably strong agreement now prevails that humans are rapidly changing the global climate through the emission of greenhouse gasses.

In the IPCC’s Fifth Assessment Report, it is thus concluded in the Summary for Policymakers by Working Group I on the Climate System that:

*Human influence has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in*
snow and ice, in global mean sea level rise, and in changes in some climate extremes. This evidence for human influence has grown since AR4. It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century.\textsuperscript{16}

In addition, it was established by a review of 11,944 papers on global warming, published in scientific journals between 1991–2011, that there is a 97.2 \% consensus among scientists that human influence is what causes cause global warming. The authors note that: Our analysis indicates that the number of papers rejecting the consensus on AGW (anthropogenic global warming) is a vanishingly small proportion of the published research.\textsuperscript{17} Therefore, it is agreed that it is necessary to take measures against the problem within a short time frame before the consequences become unmanageable for future generations and for human beings and ecosystems. It is believed that vulnerable areas will be affected first, but in Denmark we have already seen an increase in, for example, extreme weather phenomena.

As is well known, decades of international political negotiations to reach binding agreements to reduce the emission of greenhouse gasses have failed to alleviate the problem. Negotiations have taken place under the UN since 1987, in which period the emission of greenhouse gasses has done nothing but increase. In December 2015, 195 countries adopted the Paris Agreement during the UN’s Climate Conference. The main objective is to limit the increase in the global temperature to below 2 °C in this century. As the UN puts it on its website, what is needed now is for the countries to live up to their part of the agreement.\textsuperscript{18}

The latest report from the Intergovernmental Panel on Climate Change (IPCC) states:

Global warming is more likely than not to exceed 4°C above pre-industrial levels by 2100. The risks associated with temperatures at or above 4°C include substantial species extinction, global and regional food insecurity, consequential constraints on common human activities and limited potential for adaptation in some cases (high confidence). Some risks of climate change, such as risks to unique and threatened systems and risks associated with extreme weather events, are moderate to high at temperatures 1°C to 2°C above pre-industrial levels.\textsuperscript{19}

\textsuperscript{16} IPCC 2013, afsnit D3 . Please note that ‘extremely likely’ means less than 5 \% uncertainty. The scientists’ assessment has been accepted by all governments in the world in agreement.

\textsuperscript{17} Cook, John et al. 2013

\textsuperscript{18} See FN 2015: http://un.dk/news-and-media/historic-paris-agreement-on-climate-change

\textsuperscript{19} IPCC 2014, 18
The EU’s heads of state or government have, in light of the IPCC’s work in 2009, agreed to a target of reducing greenhouse gas emissions by 80–95% by 2050 compared to 1990 levels. Various measures have been deployed; For one thing, an internal EU carbon market has existed since 2005, setting a cap on the emission of the most energy-driven industrial undertakings; For another, the so-called Climate and Energy Package from 2008 lays down targets for the non-ETS (emissions trading system) sectors, including the agricultural sector. The targets were specified in 2014 so that by 2030, greenhouse gas emissions must be 40% lower than the level in 1990. The target is to be achieved through a 43% reduction in emissions by ETS sectors and through a 30% reduction by other sectors.\(^\text{20}\) The targets have yet to be divided between the individual EU Member States.

Moreover, the EU has, by virtue of its participation in the Climate Convention’s Kyoto Protocol, had joint emission reduction targets distributed between Member States, which also take into account the agricultural sector’s emissions. There are several reasons why the agricultural sector has not yet been a direct target of EU regulation. The focus has chiefly been on the largest and most concentrated sources and those where reductions were easiest and cheapest to achieve. Also, there has been opposition to regulation of the agricultural sector due to arguments about competitive conditions of international trading. So, food consumption has tended to “fly under the radar” of the eyes of the political system; There are neither taxes nor regulation in this area, so any initiatives to cut greenhouse gas emissions from food are left entirely to consumers.

**The impact from food production on the climate and the environment**

Despite this, foods contribute considerably to the anthropogenic global warming, accounting for 19–29% of global anthropogenic greenhouse gas emissions.\(^\text{21}\) Against this background, discussions have started that taxes on foods based on the individual product’s climate-impact might put consumption on a climate-friendly course, thus being a cost-efficient way to cut anthropogenic greenhouse gas emissions.\(^\text{22}\)

Furthermore, food production is central to several of the other major crises that mankind finds itself in today. Thus, the agricultural system is a significant factor not only in climate changes, but also in the loss of biodiversity and

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\(^{\text{20}}\) The reduction of 30% is, however, based on 2005 emission levels.

\(^{\text{21}}\) Vermeulen, Sonja J. et al. 2012, 198. The figure includes all stages of food production as well as packaging, transportation, sales links and the consumer’s processing as well as waste disposal.

\(^{\text{22}}\) See for example Wirsenius, Stefan et al. 2010, 160. Here, it is argued that the most cost-efficient measure would be to regulate at the source, i.e. in agricultural production. This would, however, require a cost-heavy monitoring system, which is why a tax on consumption would be preferred. Also, the advantage would be that a tax would affect locally produced and imported meat equally.
degrading of land and water. All things being equal, the problems will grow to critical levels as the world’s population grows from 7.2 billion in 2013 to 11.2 billion in 2100. Especially the 48 least developed countries, of which 27 are African, will see a high population growth. The population in Africa will almost increase fourfold from 1,186 million in 2015 to 4,387 million in 2100. The IPPC moreover highlights population growth as one of the most significant drivers of greenhouse gas emissions. FAO estimates that food production must grow by 70% by 2050, because improved welfare in many poor countries coupled with population growth will generate higher demand for foods with a higher resource impact – meat especially.

To meet future demand, food production must grow considerably. At the same time it is necessary that the agricultural sector’s imprint on the environment and the climate is reduced substantially compared to current levels. And this challenge is only made greater by the fact that it is not possible to significantly increase food production by obtaining new agricultural land globally. The reason is that the majority of the planet’s non-cultivated land is either unsuited for agriculture or is, in 29% of cases, forest land, which – if cleared – would contribute highly to the climate changes by emitting the CO$_2$ tied up in the plants.

In order to increase food production in step with growing demand, efforts are needed on several fronts; We must increase yields of existing agriculture (there is specific potential in Africa, Latin America and Eastern Europe), ensure better exploitation of existing resources as well as take measures against waste in both the production chain and the consumption chain as this is estimated to amount to 25% of calories produced globally. Finally, experts point to the fact that the target can hardly be reached without dietary changes involving less meat. In the period 1961–2011, the production of animal products was responsible for 65% of the conversion of agricultural fields. Population growth has been the dominant driver, but dietary changes involving more meat in particular is a significant driver that is increasing in force.

**Use of agricultural land**

So, the first challenge for agriculture is to be able to feed the world’s population. To do this without causing climate change it is important that it is

23 Foley, Jonathan A. et al. 2011
24 UN 2015, 1 og 4
25 IPCC 2014, 5
26 FAO 2009
27 FAO 2009
28 Foley, Jonathan 2014
29 If including plant-based protein used in the conversion to animal protein, the waste is higher than 50%.
30 Olesen, Jørgen E. 2015
31 Alexander, Peter et al. 2015, 138–147
done without clearing natural forests or cultivating grazing land to increase the agricultural area. Forest clearing and subsequent sowing of grass have major adverse effects on the climate due to the CO₂ that is held in the soil and vegetation and released through cultivation. At the same time, the loss of the old vegetation’s ability to uptake CO₂ is not compensated fully by the plantation of crops, which often cannot uptake the same amount of CO₂ as the vegetation that was cleared.  

It is therefore important to produce more food in the same land area, and in order to do this a lot can be achieved by reducing meat consumption. Feeding crops to livestock and eating the animals later constitute an inefficient way of producing food. Surveys show that it is possible to reduce the need for agricultural land by up to 50 % through a vegetarian diet and by up to 60 % through a vegan diet. But, much can still be achieved by reducing the consumption of beef; For example the need for land would fall by 40 % if replacing 75 % of beef with pork or chicken. This is because ruminants have a much lower biological productivity and exploitation of feed compared to monogastric animals like pigs and chickens.

The climate impact of foods

As mentioned, food products alone account for 19–29 % of global anthropogenic greenhouse gas emissions when including all stages in production, transport, packaging, marketing, etc. In Europe, the corresponding figure is 22–31 %. Livestock alone accounted for 14.5 % of total global greenhouse gas emissions in 2005. The livestock sector can be divided into beef production, which accounted for 41 % of the food sector’s global emissions, while dairy cattle accounted for 20 %. Pig production accounted for 9 %, and poultry and eggs for 8 % of the sector’s emissions. These differences originate in different foods having highly differing climate impact.

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32 Plutzar, Christoph et al. 2015
33 Excluding the relatively few areas, where natural conditions only allow grass or trees to grow, making the areas best suited for grazing of cattle, sheep or goats.
34 Hallström, Elinor et al. 2015
35 Wirsenius, Stefan et al. 2010, 621–638
37 Tukker, Arnold et al. 2006, 108
38 FAO 2013, 15–16. The model includes all significant emission sources in livestock breeding (supply chains), feed production, non-feed production, livestock production, post-farmgate (refrigeration, transport, slaughtering and processing, packaging and manufacture) p 7
39 FAO 2013, 15–16
40 The calculation by FAO of 14.5 % is criticised for being too low by Goodland and Anhang. According to their calculations, livestock account for at least 51 % of anthropogenic greenhouse gas emissions (see Goodland, Robert og Jeff Anhang 2009), but their calculation methods are criticised by Herrero, Mario et al. 2011
In the EU, 4–12% of greenhouse gases come from the production of meat and meat products. Noticeably this does not include emissions originating from the production of milk and dairy products.

By comparison, the agricultural sector alone accounted for 19% of the Danish emission of greenhouse gas in 2012 based on a calculation of direct emissions from production at the farms that does not include all stages in the food production and consumption as done in the reports referred to above. The figure also includes the emission linked to agricultural exports, whereas the impact originating from the import of feed, chemical fertilisers, etc. is not included.

We see the same tendency in international surveys, namely that the production of plant-based food products emits considerably fewer greenhouse gases (GHG) compared to meat.

Differences can be large, and the biggest difference is between meat from ruminants (cows and sheep) and vegetables, of which the first emits 250 times more greenhouse gases per gram of protein than the latter. A factor here

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41 Tukker, Arnold et al. 2006, 15
42 Nielsen, Ole-Kenneth et al. 2014, 376
43 Olesen, Jørgen E. 2010
44 Tilman, David og Michael Clark 2014, 518–522
45 Be aware that the choice of functional unit, may result in deviations in the results of dietary change. The functional unit here and in the figure is protein — but the most commonly used functional unit is environmental impact per KG of a product.
is how the animals are raised — intensive farming typically results in fewer greenhouse gas emissions per kilogram meat than more extensive types of farming.\(^{48}\) In intensive production, animals are usually confined in barns, which mean they take up no grazing land. They move around less and therefore grow faster, so they can be slaughtered sooner. They therefore emit fewer greenhouse gases in their life time. In other words, when increasing productivity, land and greenhouse gas emissions are reduced simultaneously per unit produced. But intensive farming is not unproblematic; High-efficiency farming often has problems with greater local pollution of soil, air and water and with poorer animal welfare.\(^{49}\)

Egg, dairy production and fish, not caught by trawling (which use a lot of energy for the cutter), take second place in terms of emissions, but have considerably lower emissions per gram than beef production.\(^{50}\) Once again, it is important to consider the problem of biodiversity. Entire fish populations are extinguished by modern fishing.

Whereas the total environmental costs of producing one calorie of dairy product, poultry, pig and egg, respectively, are comparable, beef production requires 28 times more agricultural land and 11 times more water than these animal products. Also, beef production is five times more climate-damaging in comparison.\(^{51}\)

A factor making it complicated to be an ethical consumer is that the way a specific food item is produced can further impact its degree of climate friendliness or sustainability. A tomato grown in a greenhouse in Denmark could be worse in terms of climate gas emissions than one that is transported by truck from Southern Europe, but grown in open air. Transport (except by air) is usually not nearly as important as how the product is produced and what type of food it is,\(^{52}\) but regardless of production form, neither tomatoes nor any other vegetable will ever be among the heavyweights measured by climate impact. In all surveys, meat – especially from ruminants – is in a category very far from other foods. In overall terms, it is first of all the primary production of a food product that adversely impacts the climate and the environment; Transportation and production forms are secondary.\(^{53}\)

\(^{46}\) Ibid, 3

\(^{47}\) In addition to the general emission of CO\(_2\), ruminants emit methane through their digestion. Methane is a greenhouse gas that is 20 times stronger than CO\(_2\).

\(^{48}\) Tilman, David og Michael Clark 2014

\(^{49}\) Garnett, Tara 2011, 26, please also see Gjerris, Mickey 2015a

\(^{50}\) Tilman, David og Michael Clark 2014. Again, the production method has an impact, because netting, whereby a net is dragged across the seabed, uses so much fossil fuel that it accounts for three times higher emissions per gram of protein than fish caught without bottom trawl.

\(^{51}\) Eshel, Gidon et al. 2014

\(^{52}\) Gjerris, Mickey et al. 2015

\(^{53}\) See Saxe 2014
Several studies have sought to investigate if organic farming is more climate-friendly than conventional farming. As shown by the below figure, it does not seem to be the case. Greenhouse gas emissions of different agricultural products do not seem to vary much between conventional and organic farming. But it is worth noting that research in the area is limited, and the results of any comparison depend on the figures selected for comparison – which is also evident from the below figure. The International Centre for Research in Organic Food Systems (ICROFS) has compared organic and conventional farming with regard to greenhouse gas emission and a number of societal impacts such as local environment, biodiversity and occupation.\footnote{Jespersen, Lizzie Melby et al. 2015} \footnote{Note: The effects of imported feed, fertilisers and other processing aids are included in the calculation}

The greenhouse gas emissions by organic and conventional farming, respectively, according to ICROFS are shown below. The result is based on a lifecycle analysis where all raw materials and other contributors to the final production of a given product are included in the result.

### Productivity and greenhouse gas emission of common food products, from farm

<table>
<thead>
<tr>
<th>Production</th>
<th>System</th>
<th>Production</th>
<th>Emission of greenhouse gas, kg CO(_2) equiv.</th>
<th>Share from DK, %</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Per unit produced, Per hectare CO(_2) equiv.</td>
<td>Cultiv. area</td>
<td></td>
</tr>
<tr>
<td>Milk 1)</td>
<td>Org.</td>
<td>kg ECM per year cow</td>
<td>7,175</td>
<td>1.27</td>
<td>5,359</td>
</tr>
<tr>
<td></td>
<td>Con.</td>
<td></td>
<td>8,201</td>
<td>1.20</td>
<td>6,742</td>
</tr>
<tr>
<td>Beef</td>
<td>Org.</td>
<td>kg increase per year animal</td>
<td>260</td>
<td>16.60</td>
<td>9,595</td>
</tr>
<tr>
<td></td>
<td>Con.</td>
<td></td>
<td>451</td>
<td>8.90</td>
<td>8,641</td>
</tr>
<tr>
<td>Pork</td>
<td>Org.</td>
<td>kg increase per year sow</td>
<td>1,991</td>
<td>3.16</td>
<td>2,685</td>
</tr>
<tr>
<td></td>
<td>Con.</td>
<td></td>
<td>2,929</td>
<td>2.92</td>
<td>5,467</td>
</tr>
<tr>
<td>Egg</td>
<td>Org.</td>
<td>kg egg</td>
<td>1.80</td>
<td>1.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Con.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant cultivation</td>
<td>Org.</td>
<td>kg dry matter per ha</td>
<td>4,100</td>
<td>0.440</td>
<td>1,757</td>
</tr>
<tr>
<td></td>
<td>Con.</td>
<td></td>
<td>5,750</td>
<td>0.425</td>
<td>2,396</td>
</tr>
<tr>
<td>Soya beans (China – from feed DK)</td>
<td>Org.</td>
<td>Kg per ha</td>
<td>2,788</td>
<td>0.429</td>
<td>1,196</td>
</tr>
<tr>
<td></td>
<td>Con.</td>
<td></td>
<td>3,083</td>
<td>0.536</td>
<td>1,652</td>
</tr>
</tbody>
</table>

1) Emission per kg of milk is before allocation between milk and beef
2) Quoted from Nielsen et al, 2013

Source: Jespersen, Lizzie Melby et al. 2015 (own translation)
The table shows that per kilogram of product of animal foods, the greenhouse gas emission from organic production is generally higher than conventional production, whereas organic plant production is on the same level as conventional production. In relation to the land area used for production, the emission in organic production is well below conventional production, primarily because organic production uses less fertilisers. Beef is an exception since it even in terms of land area has higher emissions in organic production. This is a result of beef production (using bull calves) making use of grazing of permanent grassland, leading to higher emissions per surface area unit due to a low feed yield per hectare.

A meta study shows the same trend:

**Greenhouse gas emissions (g CO$_2$ equivalent per kilogram) for agricultural products**

![Graph showing greenhouse gas emissions for different agricultural products.](image)

The largest reduction of emissions could be reached by reducing meat consumption. In human diets the differences between organic and conventional production are of minor relevance (above the red line: organic perform better, below the line conventional performs better).

*Source:* Niggli, Urs et al. 2008

It also implies that even if a conversion of a large share of the agricultural land to organic production would reduce greenhouse gas emissions from agriculture, the production would in fact also become smaller. Production of the same amount of food products through organic production would result in a higher emission of greenhouse gasses compared to producing the same amount conventionally. Nonetheless, organic consumption could in practice have a lower greenhouse gas emission than conventional consumption since a
consumption analysis suggests that organic buyers predominantly compose their diet with little meat.\textsuperscript{56}

The ICROFS conclude that:

\textit{In summary, although there is not much documentation on the difference in greenhouse gas emission between organic production and conventional production, it seems that greenhouse gas emission from organic production tends to be on the same level or higher than conventional production when measured by unit produced, but that it is well below the level of conventional production when measured by hectare.}\textsuperscript{57}

When organic production is compared to conventional production, it is important to bear in mind that in contrast to greenhouse gas emission, organic farming has a number of environmental and animal welfare benefits compared to conventional farming, for example in regard to the aquatic environment, pesticides and biodiversity.

Meat consumption is generally high in industrialised countries like Denmark – so high that it has evidently reached an almost stagnant level and no longer increases noticeably. It is at a constant level, but some industrialised countries have shown signs of a moderate drop in recent years.\textsuperscript{58} But global meat consumption is increasing heavily as a result of population growth combined with improved welfare in the new growth countries, causing a higher calorie intake and consumption of meat products in large segments of populations (India is an exception, due to the country’s tradition for vegetarian food). Most growth countries are closing in on the western world’s meat consumption.

Whereas improved welfare is obviously good, it is problematic if it results in increased consumption of meat (or other climate-damaging consumer goods). Rather, it should be the rich countries that should reduce their (meat) consumption. A study shows that if the current trend continues unabated, global greenhouse gas emissions from agriculture will have increased by 63\% before 2055 (compared to 1995 emission levels). Supposing that the preference for animal products will continue to rise, the increase will instead be 75\% in the same period\textsuperscript{59}

However, it would be possible to instead reduce the agricultural sector’s emissions. A study shows that if everyone converted to a vegan or vegetarian

\textsuperscript{56} Denver, Sigrid et al. 2007
\textsuperscript{57} Jespersen, Lizzie Melby et al. 2015, p 189
\textsuperscript{58} According to USDA, US consumption of beef fell by approx. one third since peaking in 1976, whereas the consumption of chicken has doubled in the same period, see ERS 2015: \url{http://www.ers.usda.gov/data-products/food-availability-(per-capita)-data-system/summary-findings.aspx}
\textsuperscript{59} Popp, Alexander et al. 2010, 451–462
diet, populations in rich countries could already reduce greenhouse gas emissions from their diets by 20–55%. It is, of course, probably unrealistic to think that everyone in the western world would stop eating meat overnight, but even substituting pork and chicken for beef could reduce greenhouse gas emissions by 20–35%. Some may argue that if the development towards increased meat consumption in the developing countries continues, it will reduce the effect derived from consumption decreases in the western world.

Finally, the effect of following one of the healthy diets that has been developed would in many cases reduce the climate impact of a Dane's diet by up to 35%. The decisive element is here how much meat from ruminants is included in the healthy diet in question. If it contains large quantities of meat, the reduction in greenhouse gas emissions is only about 10%. In some cases, a large share of organic products may actually reduce the climate benefits.

Most of the many healthy diets such as the Harvard Healthy Eating Plate have been developed by dietitians. But, dietary recommendations are revised regularly, and many are disputed. Take the example of the now popular Paleo diet (or stone-age diet); Its defenders consider it healthy and many as sustainable. The idea is to eat what people are assumed to have eaten in the Stone Age: meat, fish, shellfish, vegetables, eggs, fruit, berries and nuts, avoiding dairy products, grains, legumes, sugar and processed food. Meat from freely grazing cattle is often a main ingredient, and if many people were to have this as their main ingredient in their diet, it would obviously be a problem out of regard to land usage and climate friendliness.

**Risks: consequences of climate changes, environmental harm, etc.**

As introduced by the initial quote from IPCC, climate changes pose a number of risks. While nature and the environment are hit first, there are secondary risks for the living conditions and health of humans.

Among the risks to humans, the IPCC's Working Group II, which has looked at future risks up until the second half of the 21st century, highlights:

- Risk of death, injury, ill-health, or disrupted livelihoods in low-lying coastal zones and small island developing states and other small islands, due to storm surges, coastal flooding, and sea level rise.

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60 Hallström, Elinor et al. 2015
61 ibid
62 Saxe, Henrik et al. 2013, 249–262 and Saxe 2014
63 Assumed, because researchers suggest that the diet in the Stone Age was entirely different, see for example Ebbesen, Klaus 2015: [http://www.kristeligt-dagblad.dk/kronik/stenalderkost-foer-og-nu](http://www.kristeligt-dagblad.dk/kronik/stenalderkost-foer-og-nu); “Stone-age diet as it is described today in modern cookbooks, does not have much to do with the conditions of the Stone Age. It is pure imagination…”
- Risk of severe ill-health and disrupted livelihoods for large urban populations due to inland flooding in some regions.
- Systemic risks due to extreme weather events leading to breakdown of infrastructure networks and critical services such as electricity, water supply, and health and emergency services.
- Risk of mortality and morbidity during periods of extreme heat, particularly for vulnerable urban populations and those working outdoors in urban or rural areas.
- Risk of food insecurity and the breakdown of food systems linked to warming, drought, flooding, and precipitation variability and extremes, particularly for poorer populations in urban and rural settings.
- Risk of loss of rural livelihoods and income due to insufficient access to drinking and irrigation water and reduced agricultural productivity, particularly for farmers and pastoralists with minimal capital in semi-arid regions.
- Risk of loss of marine and coastal ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for coastal livelihoods, especially for fishing communities in the tropics and the Arctic.
- Risk of loss of terrestrial and inland water ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for livelihoods.  

Residents in exposed areas of the world feel these changes already, and the poorest are those who are exposed the most, even though they have contributed the least to climate changes given their very low consumption. However, researchers indicate that even the populations in the richest countries will be affected as extreme weather events become more frequent with effects on the environmental and social basis of public health: food and water supplies, natural limitation of communicable diseases, natural barriers to environmental catastrophes and ultimately the coherence and stability of societies. Some outcomes of climate changes are noticeable already.

About climate-damaging food and market failures

Many argue that within certain environmental areas, like the area of climate change, the market fails to factor in adverse effects of production inflicted on the environment and natural resources. It happens, for example, when the production of a food impacts the environment and the climate without the price of the product reflecting the costs of restoration which the production in question is responsible for. These costs of restoration are thus pushed on to

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64 IPCC 2014, 1–32
65 For example, see this presentation of President Obama’s Clean Power Plan. [https://www.youtube.com/watch?v=uYXyYFzP4Lc](https://www.youtube.com/watch?v=uYXyYFzP4Lc)
66 See for example United Nations secretary-General’s high-level panel on Global sustainability 2012, Sff
other people and future generations who will be affected by effects such as climate change. Such costs are called 'externalities', and it is a case of market failure because the market does not reflect the real price of the product when we take into account the production’s impact on the entire society.

To some, this is valid reason to say that the state should correct the fact that the products do not reflect the price of production, making them way too cheap. It could, for example, be achieved by putting a tax on climate-impacting goods – possibly a tax earmarked for restoration of the environment and the climate, e.g. based on scientific studies of the costs of climate changes. Others believe that it will be problematic for officials to find the “right” price of a product and then determine the size of the taxes to reach that price. We could risk heading for a type of planned economy as in reality it is impossible to calculate what a product should cost at the supermarket if environmental costs are to be covered.

It is also important to note that various stakeholders may either win or lose from climate changes, etc. And this may influence how problems are described and perceived. With climate policy, for example, revenue for energy intensive industries or those linked to fossil energy will decline. Likewise, the regulation of food products could have distributional effects for the agricultural sector and the consumers, which could also be reflected in value-based arguments.

**Legislative regulation of climate-damaging food**

**Regulation of food products, beef in particular**

In addition to the general food regulations, including the general labelling rules, we refer to Regulation (EU) No 1760/2000 of 17 July 2000 establishing a system for the identification and registration of bovine animals and regarding the labelling of beef and beef products. The regulation was introduced with the aim of rebuilding consumer trust in beef after the 1990s' mad cow disease.

The regulation established a principle of obligatory labelling of beef. Each and every piece of meat, whether fresh or frozen, must be traceable from the cold counter back to the slaughterhouse, herd and animal/group of animals from which the meat originates. It is to ensure that the meat in the event of health or safety issues can be traced and recalled.

Regulation No 1760 was amended by Regulation No 653/2014. The previous voluntary labelling system was changed by this regulation, and a new article 15a was inserted, establishing that voluntary labelling must be objective,

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67 For a discussion thereof, please see Halsnæs, Kirsten 2014
68 See section 4.1.4. on foods from animals fed GMO
verifiable by the authorities and comprehensible for consumers. In addition the information must comply with the general provisions on labelling and misrepresentation (Regulation No 1169/2011 in particular). Any labelling details for beef that are not obligatory fall under the voluntary beef labelling system as well as the provisions on general labelling and misrepresentation, e.g. additional labelling on the packages or consumer information on shop signs. Information given in e.g. advertisements, magazines or advert leaflets is covered by the general labelling and misrepresentation provisions.

The Danish Statutory Order on Traceability and Origin labelling, etc. for Beef has been issued under the Danish Food Act.

**Special notes on taxes, etc.**

Generally, it is possible for the individual Member States to impose taxes on certain products. That said, it is not permitted under EU law to impose taxes that have a discriminating effect on products from other EU Member States or protect internally produced products (TFEU article 110). Even though a tax is basically imposed on both domestic and imported products, the tax may still be prohibited by the Treaty if the revenue from such tax is partly compensating the domestically produced products for the tax. The Treaty is thus to ensure that internal taxes have entirely neutral effect in relation to the competing domestic and imported products.

Any tax restricting the trade between Member States will be prohibited by article 34 of TFEU, but may be legitimised by article 36. Any such measure must not exceed what is necessary to fulfil the purpose (principle of proportionality). The tax structure has been harmonised in relation to the most important excise duties on tobacco products, alcoholic beverages and mineral oils. Furthermore, a harmonisation of rates for both VAT and excises has been implemented.

**New initiatives**

In October 2015, the European Parliament voted in favour of putting a ceiling on the emission of various air pollutants in the EU, methane included. However, the European Parliament adopted an amendment in parallel, which means that the reduction targets are not to apply to the methane originating from the digestive process of ruminants.

The next steps are negotiations on the air requirements with the EU's Ministers of the Environment.

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69 Statutory Order no. 1281 of 5 December 2014
70 About articles 34 and 36, see the general appendix about Food and EU law.
2. Ethical consumption:
Discussion of underlying values

Should consumers take ethical considerations into account when buying foods?

Why think of ethics when you shop?
Most people are likely to say that what you have for dinner is nobody's business but your own. But ethical questions have to do with the considerations that we ought to take to others, and if we buy food that is produced in a manner that impacts others (humans, animals or nature) in a seriously negative way, then your food purchases are ethically relevant. A severe example could be foods produced under conditions exposing the workers to danger.

In other examples, people are much more divided about whether a food is problematic. For religious reasons, some find that it is wrong to eat pork; others do not embrace this religion and thus have no such concerns. So, in some cases when disagreement is value-based, it would seem reasonable that the consumer acts according to her own values without committing others to do the same.

How far does consumer responsibility go in preventing the production of ethically problematic food?
Some totally disagree that consumers ought to take ethical considerations into account when they shop, not even in cases where the vast majority agree that the production of a food is ethically problematic. Their arguments revolve around the individual's responsibility in situations that they have no power to change.

In the following, we shall use the avoidance of climate-damaging foods as the example of ethical consumption; it will be discussed in detail in Chapter 4.2. Researchers agree that the global production of beef significantly contributes to climate change because ruminants release large volumes of greenhouse gases. The principled reflections in the following are, however, relevant to a number of situations where ethical consumption might come into play: poor work conditions in the production of consumer electronics, poor animal welfare, resource consumption in connection with the manufacturing of clothes, etc.
The individual consumer should not take climate impact into account

The first possible position to be described is that of fundamentally believing that the individual consumer has no responsibility to act based on ethical concerns. An argument supporting this position is that it has no direct negative consequences for other people if a person e.g. buys a piece of meat in the supermarket.

The reasoning would be that climate change is not something the individual consumer can do much about. Even if she decides not to buy that piece of beef, and even if she decides never to buy beef again, it will not in itself make a noticeable difference to climate change. Or put differently: Her buying beef is not a sufficient condition for climate change; in fact, it is not even a necessary condition. Therefore, the individual consumer has no obligation to avoid products the total production of which adversely impacts others, if that single one purchase does not. However, the argument does not dismiss that there may be ethical concerns to take into account in food production; it simply claims that they cannot be the responsibility of the individual consumer.

The individual consumer should take climate impact into account

An argument in support of the idea that individual persons should indeed buy climate-friendly food goes that even if the individual purchase in itself makes no measurable difference to climate change it is not entirely unimportant. When pooled with all other consumer purchases around the world, individual purchases contribute substantially to the causes of climate change since they are the result of many people’s combined actions.

Some would further argue that the way you behave can influence how others behave, and in buying beef you contribute to making it socially acceptable not to consider the climate. And if many people do not consider the climate, it will have measurable negative impacts on climate change. Another perspective departs from the view that human beings should always strive to do their best in everything they do. If we acknowledge that ethically we should emit less greenhouse gases, we should each do what we can to emit less greenhouse gases in our everyday lives. This argument of course implies that we should take ethical concerns into account in numerous other areas of consumption such as taking hot showers, driving, air travel, etc. despite the fact that energy and transportation legislation does not force us to.

The state is responsible for making food consumption climate-friendly

It should be noted that both of the above arguments acknowledge that when the production of certain goods, say beef, harms other people sufficiently

71 See for example Sinnott-Armstrong, Walter 2005
72 Gjerris, Mickey 2015b, 517–532
seriously, there is an ethical obligation to reduce such production. The subject of controversy is whether the individual consumer is responsible for it happening even in those situations when the actions are not supported by a politically adopted climate policy.

Whether or not the individual consumer has an obligation to assume responsibility through purchasing behaviour, it is still evident that it is ineffective and insufficient if it is left entirely to individual persons to buy climate-friendly products. Therefore, to ensure effective actions against greenhouse gas emission in certain forms of food production, the problem should above all be solved politically through the state's regulation of production and/or consumption. This could be done through information and encouragement to buy climate-friendly products, through taxes on climate-damaging goods or by prohibiting the marketing of such products. Preferably, it should be underpinned by international agreements since greenhouse gases are blind to national borders. This way, it would be possible to safeguard against the scenario that only a few assume responsibility, while the majority does not. That said, the weakness of international agreements is that a multitude of countries are often only able to agree to lowest common denominator solutions. And if this prevents or inhibits individual countries from pioneering and leading the way, any positive development in the area could be delayed or brought to a standstill.

Why not leave it to the market to ensure food is produced ethically responsibly?

_Ethical consumption should work through the market_

Traditionally, economic liberalists have considered the market as a place where individuals ought to be free to buy and sell goods with the least possible state intervention. In liberal thinking, consumers can decide to take ethical responsibility through their consumption – or they can decide not to. The individual is free to choose. Ethical consumption is a way of expressing personal preferences. You may buy products that you associate with special values, or you may find other parameters important such as price and/or quality. If a critical mass of consumers assumes ethical responsibility, a signal could be sent through the market with the effect that certain products, perhaps organic vegetables, are promoted at the expense of less green products. Fundamentally, the imposition of state taxes on foods is considered an unnecessary added expense, and voluntariness is preferred. Only in special circumstances, when essential values are at stake, should the state intervene.

_Often the market does not function ideally for ethical consumption_

Within the framework of a modern, liberal democracy like the Danish system, it is often emphasised that even though freedom is an important value, we cannot leave it to the market mechanisms to handle value questions about
common goods like public health, the environment and the climate. This is basically because the market mechanisms not always comply with the economic theory's ideal model. When markets are left to their own devices, it may weaken the freedom of the market players and lead to massive inequalities. In reality markets fail to live up to the ideal in several ways, including:

- Often the market players do not have sufficient information to make the best choices. Thus, they can end up making choices that are wrong in the sense that they are actually not true to the values of people or those shared by a society. In relation to consumer food choices this would be the case if the consumer was not informed that a piece of meat came from an animal fed GMO, and you were, in fact, against GMO fodder and wished not support it. Modern grocery chains are incomprehensible; Often animals are bred in one country, slaughtered in a second one and processed in a third one. Consumers are far away from production and do not know how their foods are produced. So, if they are to practice ethical buying, it may be necessary to introduce labelling systems, giving them the opportunity to act according to their values.

- Sometimes, the free choice of consumers can have significant costs for people not involved in the buying and selling. These costs are called externalities. Errors occur in the market's ability to ensure the product is priced correctly when some costs are invisible to the producers and thus to the trading parties. In relation to food production, this occurs when the price of a product does not reflect the costs of restoring the environment and the climate brought about by the production. The price of the product thus becomes too low in relation to the societal costs of production.

- It is impossible for the consumer to understand and mitigate against such market errors, so to the extent they exist, the state should intervene and regulate. In much the same way, manufacturers have no financial incentive to consider the environmental impact of his production. The regulation of externalities could, for example, be in the form of taxes on climate-damaging foods such as beef that would reflect the environmental and thus socio-economic costs of production.

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Satz, Debra 2007
What ethical considerations ought to be allowed?

The harm principle

Climate change threatens human beings and nature around the world. The developing countries and poor people are vulnerable, and it is estimated that the burden of climate changes will be a growing concern for future generations. However, people in rich countries also feel the increasing impact of climate changes as we speak. As we have seen, some foods contribute significantly to climate change. Few would argue that we have a right to inflict serious harm on other people. This follows from the 'no-harm principle' originally formulated by British philosopher, John Stuart Mill:

> The only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant.

John Stuart Mill, 1859

The no-harm principle is considered fundamental since basically no approaches would disagree that it marks the limits of personal freedom: If a citizen's free choice inflicts harm to others, it is ethically problematic, and the state should intervene and prevent it through common, politically-based solutions.

The no-harm principle provides people with great liberty of action to live according to their own values. If you are an orthodox Jew, you should be able to buy kosher food to live according to your religious values. But there are limits: You would not be allowed to produce food under unhygienic conditions even if the right to do so is what fits your perception of the good life. Requests implying that serious harm would be inflicted on other people, e.g. in the form of food poisoning, all would agree are so ethically problematic that they should be prevented by the state.

But we soon come to realise that the widespread agreement that the limits of personal freedom is drawn at acts that inflict harm on others, conceals a range of specific disagreements.

So, Mill's view is that only harm to others can justify the state to use force against a citizen; Harm is a necessary condition and a sufficient condition for the state to interfere with a citizen's freedom of choice.

Others would disagree, finding that serious harm to others is a sufficient, but not a necessary, condition. The state could also legislate based on values, e.g. by prohibiting the production of GMO because some perceive GMO as...
harmful. This is where it could become problematic because those who rely on the risk assessments showing no evidence of harm to people caused by GMO production do not agree that GMO production is wrong. If imposing such a ban, the state would be taking sides in a value-based conflict by introducing legislation that parts of society would find entirely unfounded. Problems could emerge as a result, which we will get back to in the section What to do about disagreement about values?

But there are also types of harm which, in liberal societies like Denmark, are not considered to be a sufficient condition for the state to intervene in a citizen's free choice. If, for example, a person wants to divorce his or her spouse, who then becomes heartbroken, the one spouse inflicts serious harm on the other. But the nature of the harm is such that the state has no right to intervene and limit the individual's freedom by forcing him or her to stay married. You may still find that harm is a necessary condition for the state to intervene, but that it is not a sufficient condition to justify intervention.

Besides, something else matters here: The one spouse is not requesting divorce with the intention of harming the other. A woman may be asking for divorce because she wants to create a better situation for herself. That the other spouse thereby suffers harm is an unintended consequence of the divorce. Usually, harmful acts are judged more leniently when harm is not the intention, i.e. if the harm is an unintended consequence of another act. However, it does not mean that the state will not intervene in case of indirect, serious harm; involuntary manslaughter is judged milder than first degree murder. But it is still punishable because a person has been subjected to serious harm.

Despite all these disagreements, it should be noted that the subject for debate is not the principle itself that harm to others legitimises the state to intervene against individuals. Opinion differs when it comes to the types of harm necessary or sufficient to legitimise state intervention, and they need to be discussed separately. But the harm principle is an important principle in that defenders of various ethical approaches agree that the state may legitimately intervene against acts that in relevant ways cause harm to others – whatever ‘relevant’ means.

There is another principled disagreement in the debate about harm to others – more precisely who are those 'others' that count ethically and therefore should not be harmed: Is it only other people? Or does harm to animals and to nature count too? We look into this below.
Who should not be harmed - humans? Animals? Nature?

*Ethical considerations concern human beings*

In a western context, there has been a long tradition of seeing people as having a special moral status or dignity. Until the Age of the Enlightenment, this special dignity was justified in being given by God. Then there came more secular reasons that found the moral significance in traits in the human nature. This development corresponds to a shift from talking about natural rights to talking about human rights. The UN’s Universal Declaration of Human Rights from 1948 is based on the assumption that humans have a special status and moreover that *all humans have the same ethical status.*

A number of approaches have a narrower perception of whom we owe ethical obligations to. They consider obligations to other people to be different depending on the relationship we have to these people.\(^75\)

In the past decades, the traditional, people-centred ethical basis has been increasingly challenged from several sides.\(^76\) A number of philosophers have argued that animals, or some animals, should be included in the circle of whom we should take into account ethically.

*Animals count ethically*

In the history of the western world, animals have been considered as dumb creatures to be dominated by man. Right until the Age of the Enlightenment, it was widely believed that animals were incapable of feeling pain because they had no soul. In recent years, this view on animals has been abandoned, among other things, because research has shown that not only do animals feel pain and pleasure, many animal species have complex emotions, and some are even capable of showing empathy. Thus we could say that the basis for the moral segregation we have maintained between ourselves and animals is changing. Obviously, animals can be harmed if kept under conditions that cause pain or offer too little space for their natural behaviour. This makes it difficult to defend that it should be ethically justifiable to subject animals to suffering.

*Animals have interests that count ethically*

Australian philosopher, Peter Singer, argues that we should show much more ethical consideration to animals than we do today. Singer is a utilitarian and has formulated the principle of equal consideration of interests. All sentient beings with the capacity of subjective experiences — and thus the capacity to feel pleasure and pain — have, according to Singer, an interest in not being subjected to suffering as a minimum.

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\(^75\) The different perceptions are discussed in more detail, e.g. in Det Etiske Råd 2012, Kapitel 4

\(^76\) Most importantly by Ruth Harrison’s *Factory farming* from 1964 and Peter Singer’s *Animal Liberation* from 1975. But thinkers and activists have for centuries discussed the ethical status of animals.
Even if everyone has the right to equal consideration of interests, it does not mean that everyone should be treated equally. There is a difference between the interests of humans and animals for example; thus, it is worse to kill another human being than it is to kill an animal, because human beings — unlike even higher animals — have plans for the future that will be destroyed if they are killed. But causing pain to a human being is not worse than causing pain to an animal; both acts are equally wrong, because the capacity to feel pain is the same in humans and animals. Because animals can feel pain, we should, for example, not engage in animal cloning because the cloning technique is badly developed which means that a very large part of the animals are born with handicaps and live painful, short lives. However, in other areas animals function differently from human beings. By way of example, most animals do not suffer in the same way humans would when held in captivity, provided they are kept under good conditions, and therefore it is not wrong per se to keep domestic animals.\textsuperscript{77} Treating the interests of humans and animals differently Singer calls speciesism, corresponding to sexism or racism, where human beings are treated differently, although they are persons with the same qualities in every ethically important area.

\textit{Animals have lives that are important to them}

Another argument defending that we should give ethical consideration to animals is that have lives that matter to them. This argument is held by American philosopher, Tom Regan. Regan is an advocate of deontological (duty-based) ethics, but criticises this tradition for only emphasising the ability to act rationally when determining who has ethical status. Rationality is important to humans, but it cannot be ignored that it is just as important for other beings to have a life that matters to them. Regan refers to these beings as ‘subjects-of-a-life’.

Subjects-of-a-life, according to Regan, have inherent and absolute value, and the welfare of such beings cannot rightfully be undermined by referring to the benefits and welfare of others. Because animals are subjects-of-a-life, they have the right to be treated as ends in themselves and not as a means to the ends of others.

\textit{Animals should be able to live good animal lives}

A third type of argument that animals have ethical value comes from virtue ethics, which focusses on the moral traits of human beings, meaning that the central element is which character traits – or virtues – you base your actions

\textsuperscript{77} As an advocate of utilitarianism, Singer believes we should aim for the best achievable combined welfare. This means that there may be situations in which human beings’ pleasure of keeping livestock and eating meat is so big that it outweighs limited suffering in several animals kept under sub-optimal conditions. But Singer does not find that the suffering subjected to thousands of animals in industrialised farming can be outweighed by few people’s luxurious pleasure of eating meat.
on. You should ask yourself what kind of human being you want to be, and what character traits should motivate your actions. Compassion, moderation, gentleness, attentiveness and the sense of responsibility are virtues that should characterise our relation to the surroundings.

Traditionally, defenders of virtue ethics have focused on humans, but today philosophers like New Zealand, Rosalind Hursthouse, argue that also animals should have opportunities to unfold their lives within the framework they are essentially adapted to. We ought to take this into account, and it will mean treating many animals far better than we do today – for example those raised in industrialised farming.

**Nature has value in itself**

Since the 1960s, western-oriented academic philosophy and theology have increasingly defended the view that *nature has value that matters ethically*. What is meant is that nature *in itself* has value which is to be respected irrespective of whether destroying it causes harm to humans. A distinction is usually made between two main approaches:

**Individual animals or plants have value**

American philosopher, Paul W. Taylor, reasons that also plants have ethical value. Taylor is also an advocate of the deontological (duty-based) tradition, but applies a broader definition than Regan as to what should count ethically. Taylor argues that the notion that all living organisms can follow their biological purpose – the purpose that is in the DNA of the animal or plant – confers a right to ethical consideration just like human beings. All living beings are purposed to uphold their existence and promote their biological functions, and this is valuable to them just as the lives of human beings are valuable to us. Taylor acknowledges that living beings live by eating each other. Therefore, the problem arises that the vital interests of some will constantly be violated. But here it is important that humans give respect to nature and consider the interests of other living organisms, so that we do not violate them to fulfil our own trivial needs.

**Everything in nature has value**

In contrast, the so-called ecocentrics argue that not just individual living things but nature as a whole has value; not just living things, and not just individual humans, animals and plants, but also over individual units such as biological species, ecosystems and the planet have value, meaning that they should not be harmed. There are different views on why we should respect and consider all of these things: One is that not only the relations we have to other people but also those to nature and all its elements have ethical value. Norwegian philosopher, Arne Naess, argues that intuitively we can all acknowledge that all things in the biosphere have an equal right to live and that humans can only realise themselves through identification with the larger organic whole that we are part of. Finally, some virtue ethics would, as mentioned, argue that traits
such as care, moderation, gentleness, attentiveness and the sense of responsibility are virtues that should characterise our relationship to nature as a whole as well.

Expanding the circle of ethical beings with animals in addition to humans, would of course lead to many more situations of colliding values. And the problem would simply be intensified if we include plants in this ethical community – even more so if nature as such is to be considered as something that imposes obligations on humans. How to practically navigate in a world that has ethical value in itself is therefore an extremely complex question to which various ethicists hold widely differing answers.

But even if we find that only humans, possibly humans and superior animals, have ethical status, the outcome could well be that we have larger ethical obligations to nature than we normally admit. Because to the extent we consider plants and ecosystems valuable to humans, we should also look out for them. And if we consider all humans to have ethical value, we should look out for the climate too, even if global warming, at first, will only strike humans far away or generations to come.

So, there is disagreement as to when harm to others is ethically problematic and disagreement as to who it is we must not harm. The disagreements are value-based. The next question is therefore what to do in societies where citizens disagree about value questions?

**What to do about value conflicts?**

*What if citizens disagree about what ethical considerations to take into account?*

In liberal democracies such as Denmark there is overall agreement that values such as equality between human beings and freedom are important. But in more complex choices, we often disagree about moral values. For example, there is no agreement as to whether it is morally justifiable to change sex, have an abortion, do research with stem cells, eat meat (or some types of meat), keep livestock, etc. There are various religions and secular philosophies that partially collide when it comes to what they consider has value and what ethical considerations ought to be made.

Politically, this is problematic, because if the state bases its laws on one of the conceptions, those who adhere to other conceptions would find the legislation lacking in legitimacy. If, for example, the state was to ban the production of GMOs, this would be the right thing to do based on some value beliefs, but groundless for those not sharing these beliefs. The state would be promoting some citizens' conceptions of the right way to live at the cost of others, which could potentially question its legitimacy and jeopardize the citizens' support.
for the state.

The American philosopher, John Rawls, has famously described the problem:

How is it possible that there may exist over time a stable and just society of free and equal citizens profoundly divided by reasonable though incompatible religious, philosophical, and moral doctrines?  

Rawls' own answer was to distinguish between, on the one side, a set of overall values that only applies to the political level. On the other side are the different comprehensive religious and philosophical perceptions or ideologies that encompass many more aspects of life, including conceptions of what constitutes the good life. Liberal states, ideally, should only legislate based on a limited set of political values: freedom and equality coupled with access to basic necessities. This is because these are the overall values that many ideologies would accept them and thus any legislation based thereon.

The ideologies endorsing the fundamental political values Rawls calls 'reasonable'. The state should, as far as possible, remain neutral towards the pluralism of reasonable moral and religious conceptions of the good life.

The state's value neutrality, however, does not mean that people can live in any way they want. As mentioned, overriding values such as equality and freedom cannot be bargained with. These values are essential in order for society to be just. Rawls proposed the division that the state's value neutrality should not be ascribed to questions of justice. The just rules for the organisation of society are those that everyone are assumed to endorse in a hypothetical situation in which they were to write the rules not knowing where they would be placed in society when the rules were to enter into force.

As mentioned previously, the state can also intervene if the choices of citizens inflict harm on others because this would not mean the state favouring the values of one citizen over another; It would be society’s way of protecting its citizens from injustice. The no-harm principle is based on an ideal of justice, supplementary to the principle that the state ought to remain neutral in value questions, i.e. it should not favour some perceptions of the good life over others.

One problem is that in reality it is not so simple to draw a clear line between, on the one hand, values that are rooted in perceptions of the good life not to

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78 Rawls, John 2005, xviii
79 Rawls, John 2005, xxxix
80 Obviously, the case here describes an ideal model for how the state ought to legislate in order to ensure stability in a pluralistic, democratic society. This is not to say that reality does not hold examples of laws that are based on values of the good life not shared by everyone.
81 Rawls provides a theory on how just rules of a society can be derived in A Theory of Justice from 1971
be interfered with by the state, and, on the other, values related to justice that the state can regulate without favouring anyone’s perception of the good life. For, ones perception of justice is intertwined with ones perception of life quality in many areas. The value neutrality of a state, obviously, cannot be implemented throughout. Nonetheless, value neutrality is still an overriding ideal in liberal societies in which the state does not take sides in religious questions or prohibits people from having views and expressing those views. Introducing laws in contravention of this idea, many would therefore find controversial, e.g. if the state was to legislate for people to eat healthy food, even if their unhealthy eating habits harm no other than themselves.

The ideal of a value neutral state can, of course, be criticised in several ways. The most extensive criticism goes that fundamentally, the state should not take a neutral stand, but should instead legislate according to the right principles. Another point of criticism is that the state is thought to represent unity and democracy, and that common decisions should be based on an overall balancing of citizen values.

However, as pointed out by Rawls, the problem is that there is no detailed agreement as to what principles are right, nor is there any agreement as to how we can make an overall balancing of values that everyone will be happy with. Some find that when values are perceived differently in different cultures and sub-cultures, it is because there are no values that apply at all times and in all cultures. In other words, there is no one truth when it comes to how much consideration to give to other people, whether to give equal consideration to everyone and how to treat animals. Others disagree and find that values are universal: There is one answer to the above questions that applies always that everyone can endorse under the right conditions.

However, many Universalists admit that in practice not all have the same values in all aspects, which is evident by looking at a society like today's Denmark. It makes relativists and Universalists alike believe that it is necessary that we live with a limited degree of pluralism which acknowledges that we have different conceptions of the good life and how we ought to live it. People should be free to live according to their own values – provided that these values can be observed without harming others and their possibilities of pursuing their ideals.

Disagreement exemplified: How to understand personal freedom?
A subject of value-based disagreement that influences the question of ethical consumption concerns how much freedom people in a liberal democracy should be allowed. Is the private sphere and the food you choose to buy nobody’s business but your own? From one viewpoint, it is probably best if the state takes a great responsibility for the citizens' food consumption and prohibits the most unhealthy foods – or imposes taxes (as attempted with the now abolished tax on fat). From another viewpoint, it would be totally
unacceptable if the state was to deprive citizens of the choice to take chances and eat unhealthy foods if doing so enhances their quality of life.

The question of how much freedom individuals in a community should be allowed is relevant in every human society. So, the general consensus that citizens should be free to act and form their own lives according to their own ideals obviously covers a wide spectre of interpretations of where exactly to draw the line for the free scope of individuals and for what the state may interfere with.

In one end of the spectre, we find the defenders of extensive freedom for individuals implying that ideally the state’s role should be limited to ensuring police protection, national defence and administration of the judicial system. We own ourselves and the produce of our work. Hence, it is morally wrong for the state to collect taxes or otherwise interfere with our lives as long as our acts do not cause harm to others. We should not be hindered in committing acts that only harm ourselves.

In the opposite end of the spectre are various approaches finding that the respect for personal freedom is compatible with us renouncing part of that freedom to the community or the state. The role of the state should not only be to protect its citizens from injustice; The defenders of a more comprehensive state find, to varying degrees, that the freedom of individuals cannot be seen independent of their living conditions. If these conditions are not fundamentally in order, e.g. if you are held down by poverty, illness or lack of education, you can hardly be free to make the choices needed for you to pursue your idea of the good life. The state should be active in establishing the best framework for the lives of its citizens. It should be added that in a world where countries become increasingly dependent on each another, the state could be considered as a necessary and decisive player when it comes to handling environmental issues that impact common goods – locally, nationally and globally.

Disagreement exemplified: What is the value of ‘the natural’?

Whereas there is little dispute that freedom is a value – though its interpretation is disputed – the question of what is valuable is much more contested. For example, there are differences of opinion when it comes to the value of the natural and the value of natural foods. We will elaborate further in the next chapter because the view plays such a big role in food matters. All surveys of consumer views show that the majority sees naturalness as something valuable. They do so in many areas, but profoundly in the area of food.

The vast majority of respondents in the EU consumer survey thus state that they consider the main problem of foods from GMO is that they are unnatural. In the meantime, determining what natural food really is could be difficult,
considering that almost any food has been processed by humans. Also, people seem to disagree about what it really means that a food is unnatural. To some, this lack of clarity is sufficient ground to dismiss naturalness as having value in itself. Others find that there is a limit to how much humans are allowed to intervene with nature, and that the application of techniques such as genetic engineering crosses a line that ought not to be crossed.

Once again, it leaves us with the question of what to do when something has been debated a long time and people are still divided. In regard to GMO, it is disputed what value natural states have and if there is an ethical limit defining how far humans should be allowed to modify nature. Should the state then be allowed to pass legislation based on values that not everyone shares? Should such questions be left for the individual consumer to decide, or should the state legislate based on such values if shared by sufficiently many? And if the state is to favour the values of some, whose should it be?

Conclusion

Whether you believe that consumers should take ethical consideration into account in their daily shopping depends on a number of factors.

One factor is whether individuals be said to be responsible for the very small contributions they make through their individual purchases in relation to ethical problems that are caused by the production of specific foods?

Another factor is if there really are any ethical considerations to be taken in food production? Here, many will agree that this could be the case in situations where production causes harm to others. But, there will be no agreement as to which types of harm would justify the state to restrict people's freedom and who those others are. Who counts ethically? Is it only human beings? Only some human beings? Or do animals count as well? And what about plants and nature as such?

Roughly speaking, we can plot it as choices on a scale: In one end, we have choices that ought to be individual (it could be choices tied to a specific religion which the individual makes for himself without committing those not adhering to the religion, e.g. praying at certain times of the day or treating food in a certain way). In the other, we have choices about foods that are produced in a way that may cause serious harm to other people (e.g. if hygiene standards are not observed). In between are a number of choices characterised by disagreement about whether there are ethical considerations to take into account, and, if so, whether the responsibility lies with the consumer or society, in which case a political framework regulating the individual's behaviours should be established.
3. Reflections on naturalness and foods

Part of the discussion of the value of nature and natural things could be said to be behind consumers’ strong preference for natural foods and conversely renunciation of foods perceived as unnatural. Thus unnaturalness was the most frequent reason for suspicion of genetically modified foods in an opinion poll where 70% of European participants considered them unnatural. Some surveys conducted by psychologists show that preference for the nature and natural things is partly founded in instrumental concerns, e.g. that natural foods are perceived as healthier, cleaner and tasting better. But in addition, many also indicate that they would prefer a minimally processed and thus more natural product, even if it was chemically identical to another product that humans had played a great part in producing. It is interpreted such that the state of being natural in itself is considered valuable for consumers.

In the meantime, it seems that underneath this apparent endorsement of an ideal of naturalness hides a wealth of understandings of what ‘nature’ means and when something is ‘natural’. It would be productive to study these underlying disagreements to prevent defenders of opposing views from talking past each other. For we cannot discuss whether the natural has value ethically speaking before knowing what we are talking about when we talk about the natural.

Even though the concept is referred to repeatedly, there is no acknowledged definition of what nature or ‘natural’ is. Instead, it is often defined by what it is not. Scottish philosopher, David Hume (1711–1776), noted that nature is often seen as a contrast to:

1. The miraculous or supernatural
2. The civilised/anthropogenic
3. The artificial

If nature is to be understood as the opposite of the supernatural and you deny that the supernatural exists, then all things in the world are natural, so this is hardly what most people mean when they talk about natural.

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82 European Commission 2010a
83 Rozin, Paul et al. 2004, 147–154; Rozin, Paul 2005
If, on the other hand, nature is to be understood as the opposite of that which humans have made, the civilised, then it must be understood as that which humans have not interfered with. But today, this can only be said about a few virgin forests and distant natural reserves, and nothing in Denmark would fall under this definition. Others have attempted to further categorise the different degrees to which things have been interfered with by man:

- The wild understood as uncultivated land, untamed livestock, ungrafted plants,
- The rural as opposed to the urban, includes also agricultural land and cultural landscapes,
- The green understood as the living, the low-technological and the organic; what existed before the industrial revolution. This is also found in cities in the form of parks, pets and potted plants. The category also covers planed timber, leather and cotton, but not more synthetic products such as chip board, napa and acrylic,
- The physical understood as what can be described by natural science as opposed to the subjective, social and cultural. While the human body is included in nature, human thought and science are not.  

As these categories show, there is great diversion as to how much human intervention is acceptable before something is no longer considered natural: from no intervention whatsoever to the types of interventions seen until certain historical eras, e.g. until the industrial revolution. But with so many suggestions, how can we arrive at a common understanding of ‘natural’ that most people would endorse?

Hume suggests contrasting the natural to the artificial, but more precision is needed. O’Neill et al suggest understanding the artificial as anything created by humans with a specific purpose:

*Something is artificial if and only if it is what it is at least partly as the result of a deliberate or intentional act.*

The natural is thus everything that is not the result of such acts. But is this to say that human beings are not natural since they are often the result of human beings having acted deliberately with the purpose of having children? And does that make climate change natural since it is not the result of deliberately human actions, but is the unwanted side effects of other things that humans do?

In reality, it is thus extremely difficult to find a meaning of natural that

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84 Fink, Hans 2003
85 O’Neill, John et al. 2008, 129
captures the many ways in which the concept is used. In the food area, it is even more difficult since almost all foods are grown or processed by humans, so according to several of the mentioned definitions no foods are natural.

Different surveys have sought to pin down what consumers really mean when they talk about natural foods. Once again, the tendency is to define natural based on what it is not. A major survey covering five European countries and the USA shows that across the countries, a large majority of consumers associate natural food with food that has not been added any (especially chemical) substances and is not processed.⁸⁶

When something is added to a food, the majority of the survey participants perceived it as 'polluted' and its naturalness as reduced. But, it does matter what is being added. Chemical changes (e.g. preservation) or removal of natural components (e.g. fat) or additives of natural or unnatural substances to a moderate extent (e.g. colouring substances) and - significantly - genetic manipulation, cause the food product to be perceived as markedly less natural than before. By contrast, physical changes (e.g. freezing or blending) to most people have less bearing on their perception of naturalness.

As can be seen from the table, conventional production (domestication) is not significantly perceived as unnatural, despite the fact that, as scientists state, it "is a massive human intrusion, over hundreds of generations, that produces major changes in the genotype and phenotype of a wild species (...) Genetic engineering, in contrast, involves insertion of a single gene, with a minimal change in genotype and phenotype." Still, genetic manipulation reduces the perception of naturalness by 54.1 %, whereas domestication only reduces it by 9.8 %.⁸⁷

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<tr>
<th>Physical transformation</th>
<th>Domestication</th>
<th>Grown commercially</th>
<th>Mix unlike naturals</th>
<th>Chemical transformation</th>
<th>Unnatural contaminants</th>
<th>Genetic engineering</th>
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<td>Percentage reduction in naturalness</td>
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Source: Rozin, Paul 2005

⁸⁶ Rozin, Paul et al. 2012, 448–455
⁸⁷ Rozin, Paul 2005
British philosopher, Anne Chapman, proposes to look at naturalness as something that increases in degrees; the more people try to control nature and distance themselves from the processes in it, the more unnatural that practice is. Based on this definition, cotton is more natural than polyester because polyester is entirely man-made and would not exist without human intervention. Cotton, on the other hand, is a plant that grows in nature. Accordingly, she finds genetically modified plants more unnatural than those grown conventionally.

We shall not venture further into this complex area at this place, suffice it to say that there is no clear-cut definition of when a food is natural and what it takes for it to become unnatural. And therefore, there is also no way of measuring just how natural a given food is. Many factors influence the consumers’ perceptions, and different people seem to apply different classifications of naturalness.

So, on the face of it, it seems difficult to determine what it means that foods are natural. But even if we could come to an agreement, the next question is whether something is good or ethically valuable because it is natural? Which leads us to ask if something is bad if it is unnatural?

There seems to be no such thing as a simple analogy: We do not consider natural phenomena like volcanic eruptions and malignant tumours as something good, but most people do consider unnatural things like appendectomies and tooth brushing as good. The fact that something is natural cannot be used as a standard to determine if it is good in itself.

However, ‘unnaturalness’ may perhaps from a more general view be seen as a common denominator for factors that worry consumers when it comes to knowing if the food they buy is healthy or at least safe to eat. Another perspective could be that ‘naturalness’ in relation to food products could be a way of ‘connecting’ to the earth and nature, from which many find that we have become too detached because of technology. Various food scandals presumably have had a negative impact in relation to the consumers’ trust in the industrialised food supply. Many surveys suggest that there is a great coincidence between what consumers perceive as natural and what they perceive as healthy.\(^{88}\) First of all what they think is good for their health, but some also put weight on what they consider to be “healthy” for the environment.\(^{89}\)

To the extent that the preference for natural food in this way is a means for instance to obtain good health or safety through the food we eat, naturalness

\(^{89}\) Magnusson, Maria K. et al. 2003, 109–117
can be said to have instrumental value because it enhances people's wellbeing and quality of life. Obviously, it only does so in those cases where naturalness actually enhances these things; Old, tainted food may well be natural, but is neither healthy nor conducive of trust.

The above seems to question if it would be constructive to use naturalness as a standard to measure if something is good for humans. It is notoriously difficult to determine when foods are natural, but even if you take foods that have been minimally interfered with by humans, e.g. old raw milk, they are not necessarily good.

This of course does not mean that we should dismiss the consumers' requests for natural foods as unfounded. The reason that many request products that are minimally processed and produced locally could be seen as a wish to ensure that the product is manufactured under responsible conditions and is not added harmful substances. The food product system is complex, and it is often incomprehensible for consumers to find out which products are healthy and produced with ethical responsibility.

This has made some claim that consumers have a right to information that enables them to make choices according to their preferences. Some have compared this right with the right to informed consent in the health services sector. A labelling system could be seen as a way to accommodate this right. As mentioned, however, there are many factors of importance to different food consumers, and a number of factors which could be declared via a labelling system, e.g.:

1. The ingredients contained in the food
2. Information about the production process and its environmental impact
3. If specifically the food contains any genetically modified substances
4. If there are known health risks associated with eating the food
5. If any research evidence points to possible risks associated with eating the food

General labelling of all foods to include all these factors would be very comprehensive and costly. It is difficult to see that such vastness of information for each single product would actually enable the consumer to make an autonomous choice in the supermarket.

It could be argued that people have a right to information when important considerations affect a multitude of citizens. For example, the opposition to

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90 Chadwich, Ruth 2000, 193–208
91 ibid
genetically modified foods is considerable, especially in Europe, and there is persistent disagreement about whether there are risks or ethical problems associated with the production or intake of GMO. This GMO aversion is unaffected by surveys showing that neither cultivation nor consumption of GMO is associated with any risks. Other considerations, among them naturalness, seem to play a decisive role for these consumers. In a situation of such value based differences of opinions, it could be argued that the state should remain neutral and not favour one perception over others, e.g. by prohibiting GMO in general. But it should be possible for the large group of citizens who find GMO ethically problematic to avoid them.
About the report

This present report has been prepared by a working group under the Danish Council on Ethics consisting of Mickey Gjerris (Chairman), Christopher Arzrouni (until retiring from the Council in July 2015), Jacob Birkler, Kirsten Halsnæs Lene Kattrup, Steen Vallentin, Signe Wenneberg and Christina Wilson as well as (in the latter part of the work) external expert member Jesper Ryberg, Professor in Philosophy and Theory of Science, Roskilde University.

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Jørgen E. Olesen, Professor at the Department of Agroecology — Climate and Water, Aarhus University;
Jesper Ryberg, Professor in Philosophy and Theory of Science, Roskilde University;
Rikke Bagger Jørgensen, Senior Researcher at DTU, Department of Chemical and Biochemical Engineering;
Hanne Boskov Hansen, Special Adviser in the Danish Veterinary and Food Administration, Chemistry and Food Quality;
Morten Ebbe Juul Nielsen, Associate Professor, Department of Media, Cognition and Communication, University of Copenhagen; Christian Gamborg, Associate Professor, Section for Environment and Natural Resources, University of Copenhagen; Birte Boelt, Senior Researcher, Crop Health, Department of Agroecology, Aarhus University; Helle Tegner Anker, Professor, Consumption, Bioethics and Governance, University of Copenhagen; Søren Flinch Midtgaaard, Associate Professor, Department of Political Science, Aarhus University; Henrik Saxe, Director for Global Decision Support Initiative, DTU; Mette Hjorth Mikkelsen, Academic Employee, Danish Centre for Environment and Energy; Julian Kinderlerer, Professor, Chairman of the European Group on Ethics In Science and New Technologies; Jesper Lassen, Professor, Consumption, Bioethics and Governance, University of Copenhagen; Lotte Holm, Professor, Department of Food and Resource Economics, University of Copenhagen; Lars Pram, CEO at the Danish Consumer Council; Martin Merrild, Chairman of the Danish Agriculture & Food Council; Karen Hækkerup, CEO of the Danish Agriculture & Food Council; Helene Regnell, CSR Manager in Dansk Supermarked Group; Bruno Sander Nielsen, Chief Adviser at the Danish Agriculture & Food Council; Thomas Søbirk Pedersen, Professor of Ethics,
Roskilde University and member of the Ethical Council for Animals.

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Gorm Greisen            Christa Lundgaard Kjøller
Chairman                Head of Secretariat
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