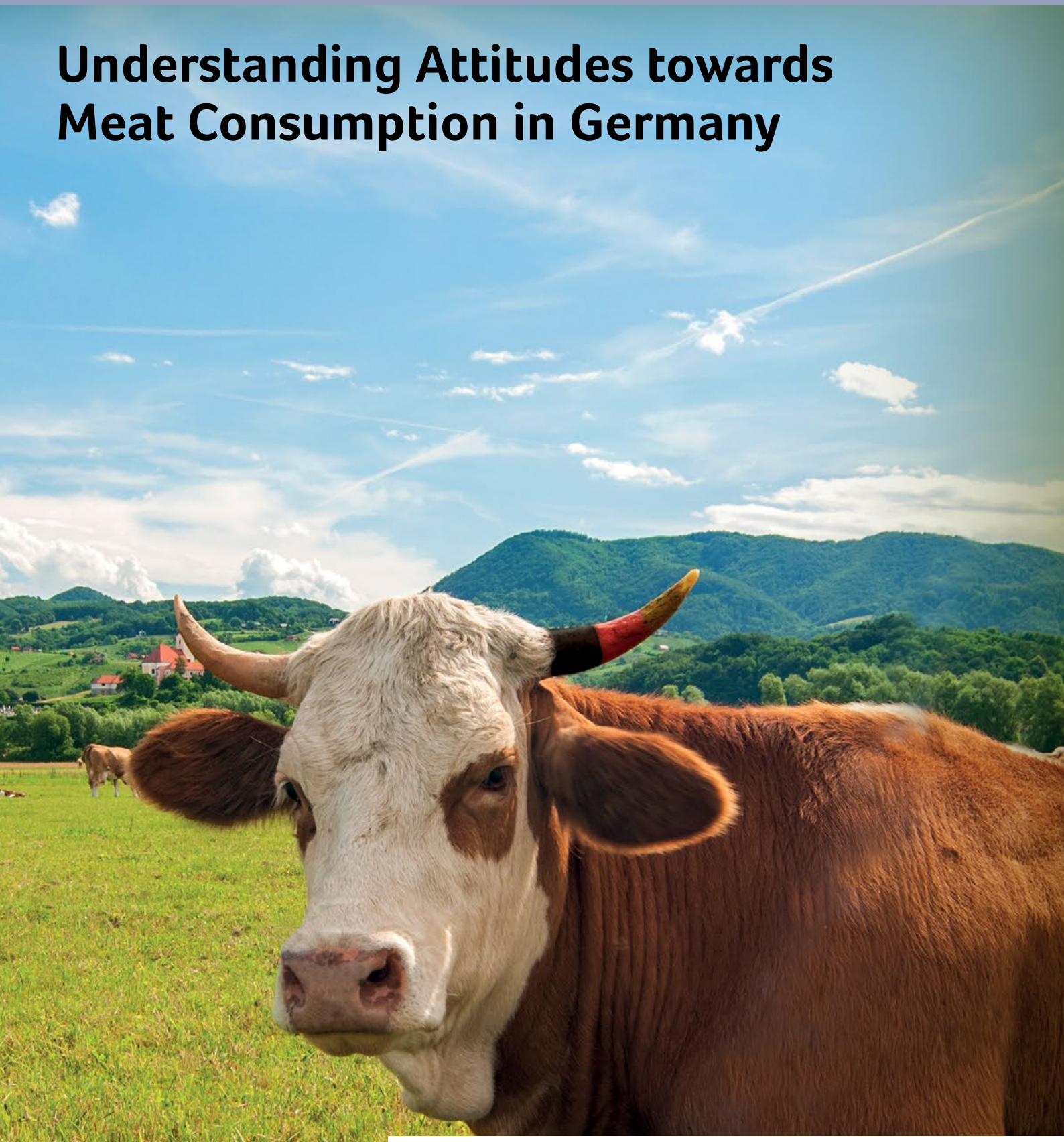
AGRICULTURAL POLICIES IN DEBATE

Understanding Attitudes towards Meat Consumption in Germany



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The Agricultural Policy Dialogue Brazil-Germany (APD) is an interchange mechanism for knowledge and information on bilateral and global agri-environmental challenges. Germany has been developing similar initiatives with several countries for more than two decades, and they are essential references for the development of APD in Brazil.

The activities of the APD are based on the Memorandum of Understanding signed by the Ministry of Agriculture, Livestock, and Food Supply (MAPA, acronym in Portuguese) and the German Ministry of Food and Agriculture (BMEL, acronym in German). Representatives of these Ministries, Agribusiness, Academia, and Civil Society of Brazil and Germany participate in the Dialogue.

The objective is to understand better critical issues of agricultural and environmental policies in the face of growing agri-environmental challenges and climate change. The exchange and dissemination of knowledge occur through seminars, forums, conferences, publications, and exchange trips.

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Understanding Attitudes towards Meat Consumption in Germany

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ABOUT THIS STUDY

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1. Introduction

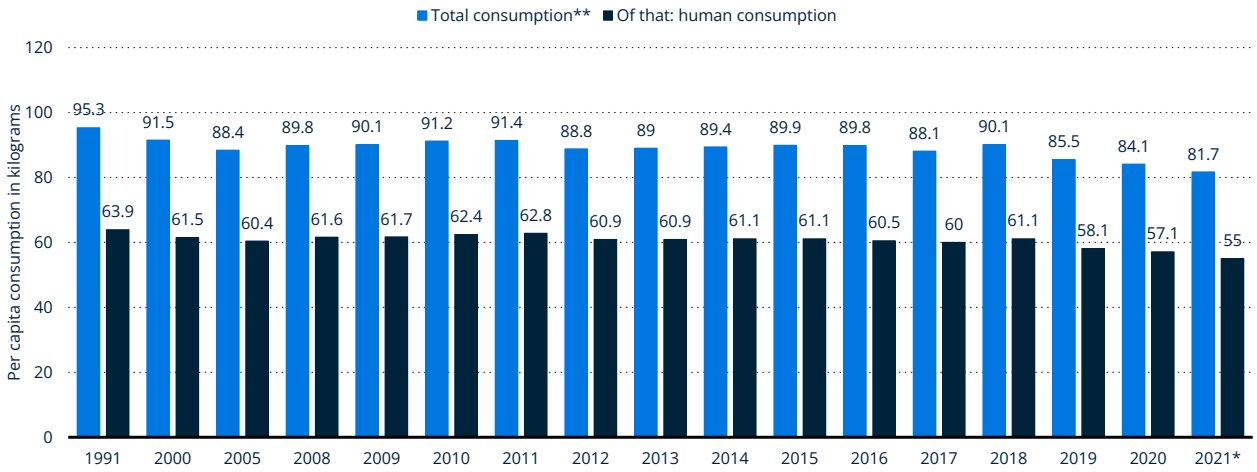
Meat-based diets are the norm in Western societies. In countries like the United States and the United Kingdom, vegetarians account for less than 5% of their respective populations (Segovia-Siapco and Sabaté, 2018). Rationalizations of meat consumption in the West are synthesized in the 4Ns: Meat is natural – it is what our biology has come to crave in the evolutionary process, eating meat is normal – it is a sociocultural practice and expectation in civilized societies, meat is necessary for humans to be healthy, and meat is nice – animal protein is tasty (Piazza et al., 2015). Consumption habits, culinary traditions, and what sociologists call cultural repertoires (culturally available unarticulated instructions loaded with values and understandings that guide people's actions) are also important factors to explain meat intake (Sabate and Soret, 2014; Oleschuk et al., 2019). While it was formerly reserved for certain social groups and occasions, meat has nowadays become part of everyday nutrition for broad sections of the population in many western societies such as in Germany and the worldwide demand for meat and other animal products is increasing due to rising incomes, growing populations and other sociocultural factors (Steinfeld et al., 2006).

At the same time is scientifically proven that meat consumption is a major contributor to global warming and environmental degradation (e. g. Godfrey et al., 2010; Steinfeld et al., 2006). The livestock industry pollutes and depletes fresh water, contributes to the loss of biodiversity, and is a major source of anthropogenic greenhouse gas emissions (Steinfeld et al., 2006). By 2020, the Legal Amazon area had already lost 20% of its original forest cover, about 82 million hectares of forests, in large proportion for extensive livestock use (TerraBrasilis/INPE, 2020). Even if new studies (e.g. IPCC, 2021) put the climate damage of agriculture and especially cattle production into perspective, both in terms of nitrous oxide and in the assessment of methane emissions, there is agreement that agriculture is of crucial importance in coping with the major climatic changes that we are currently confronted with and which are likely to become even more severe in the future. This leads to numerous discussions regarding the need to reduce the consumption of meat and other animal-based foods in the future. The following article provides an overview of the social, economic and political factors that significantly influence meat consumption in Germany and shows what opportunities and options exist within the framework of the agricultural policy dialogue between Germany and Brazil.

2. Meat consumption in Germany

Human meat consumption in Germany recently totaled around 55 kilograms. Pork accounts for more than half of meat consumption, poultry accounts for a further 13 kilograms and beef and veal about nine kilograms. While overall meat consumption has declined slightly in recent years, there has been a shift in consumption from pork to more beef and poultry. When buying meat and meat products, pre-packaged self-service goods dominate. Around 70 percent of meat and sausage products are now sold pre-packaged, and consumers purchase over 25 percent at meat counters (Statista, 2022a). However, the frequency of meat consumption has tended to decrease in recent years. Figure 1 shows the amount of consumed meat in Germany from 1991 to 2021. It can be seen that the average per capita consumption has fallen by 8.9 kg per year.

Figure 1 – Per capita meat consumption in Germany per year from 1991 to 2021



Description: This statistic shows the average annual per capita consumption of meat in Germany from 1991 to 2021. In 2021, 81.7 kilograms of meat were consumed in Germany, of which roughly 55 kilograms were intended for human consumption.

Note(s): 1991 bis 2021; * Preliminary figure. ** Food consumption incl. animal feed, industrial use and loss.

Source(s): STATISTA, BMEL; Thünen-Institut

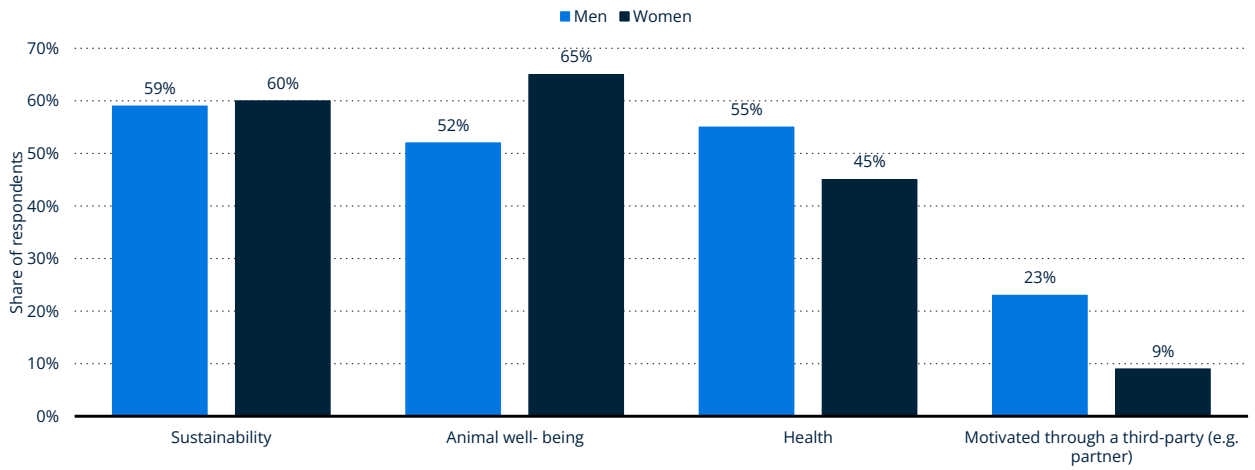
Most motives to reduce or ban the consumption of meat can be split into personal health motives and moral motives. The personal health motives refer to the fact that meat may expose consumers to certain health hazards, such as cardiovascular diseases and certain forms of cancer. The International Agency for Research on Cancer (IARC) considers red meat as (probably) carcinogenic to humans, particularly for colorectal cancer but also for pancreatic cancer and prostate cancer; each daily intake of a 50-gram portion of processed

meat increases the relative risk of colorectal cancer by 18% (IARC, 2018). In addition, processed meat consumption is characterized by a high content of cholesterol and saturated fatty acids, which are both associated with coronary heart disease (Mozaffarian et al., 2010) and diabetes (Wolk, 2017). Due to the high intake of red and processed meat in high-income countries, the World Health Organization thus recommends limiting their consumption (WHO, 2021). During the last decade, the recommendation to eat 'less' meat for health reasons became more and more common also in Germany, going up to a transformation of the nutrition towards more plant-based diets. The German Society for Nutrition e. V. (DGE) recommends a plant-based diet with little meat consumption. As part of a wholesome diet, a small amount of meat can help provide essential nutrients. However, a weekly amount of meat and sausages ranging from a total of 300 g for adults with a low calorie requirement to 600 g for adults with a high calorie requirement is sufficient. In a comprehensive review (umbrella review) which DGE published in the 14th DGE nutrition report, the connection between vegetable, fruit and meat consumption and diseases that occur very frequently in Germany such as stroke and coronary heart disease, Type 2 Diabetes Mellitus as well as colorectal and breast cancer. Cardiovascular diseases were among the most common causes of death in Germany in 2018 at 37.2%, followed by cancer with around 25% of all deaths (DGE, 2021). "The included meta-analyses show that higher vegetable consumption reduces the risk of developing a stroke, coronary heart disease or colon cancer. This also applies to the consumption of fruit and the risk of cardiovascular disease or breast cancer," explains Prof. Dr. Bernhard Watzl, Vice President of the DGE the results. "In contrast, a high consumption of red and processed meat such as sausage has a rather unfavorable influence on the disease risks investigated. The studies did not show an increased risk for white meat such as chicken or turkey," Watzl continued. (DGE, 2021). The implementation of the recommendations is also increasingly taking place in the community supply of public institutions: In 2016, in the German universities, more than 50 % of the meals were already vegetarian or vegan (Meyer auf der Heyde, 2016). Also in company canteens, in the last years, more plant-based meals are offered (Bohl and Kallsen-Mackenzie, 2017).

The moral motives refer to animal welfare concerns and ecological concerns. In times of climate change, ecologically sustainable aspects play an increasingly important role for many consumers. Compared to the production of plant-based foods, the climate balance in the production of animal products is more negative. Willet et al. (2019) argue that a transition toward more plant-based food is a major lever to enhance environmental sustainability. For many consumers, another reason for a meat-reduced, vegetarian or vegan diet is the support of species-appropriate animal husbandry or general animal welfare.

Figure 2 shows the reasons for consumers to ban meat from their diet. Sustainability is the most important reason for giving up meat. In Germany in 2020, around 59 per cent of the men and around 60 per cent of the women surveyed cited this as a motive for giving up meat. For the male respondents, however, it was slightly more important than for the female respondents to give up meat for health reasons. Around 55 per cent of the men and 45 per cent of the women named this as a motive.

Figure 2 – Reasons not to eat meat, broken down by men and women.



Description: In 2020, 52 percent of German men did not eat meat to support animal well-being, as did 65 percent of women. The figures are based on a survey conducted in Germany in 2020 asking respondents what were the reasons they did not eat meat

Note(s): Germany; November 16-27, 2020; 1,003 respondents; 18-75 years

Source(s): STATISTA PHW-Gruppe

Despite the fact that meat is still cherished by the majority of people, meat-eating practices often raise a psychological conflict—known as the meat paradox—between people's dietary preference for meat and guilty feelings about animal suffering caused by the abysmal treatment of meat animals (Loughnan et al., 2010). Even if research shows that people are more likely to change their beliefs about animal suffering than their diet (Bastian and Loughnan, 2017) the strategy of mind denial is often invalid, since animal anthropomorphism, which attributes humanlike minds to animals, frequently occurs in our everyday environment (Sevillano and Fiske, 2016). During recent decades the treatment of farm animals has raised public concerns in most Western societies. An increasing number of people criticize certain farming practices and the treatment of animals in modern agriculture in general (Dirschel, 2013; Miele and Evans, 2010). In many European countries, national legislation has been changed to reflect people's increased awareness of animal well-being. Since 2002, animal welfare in Germany has been enshrined in Article 20a as a national goal in the Basic Law. In Article 13 of the

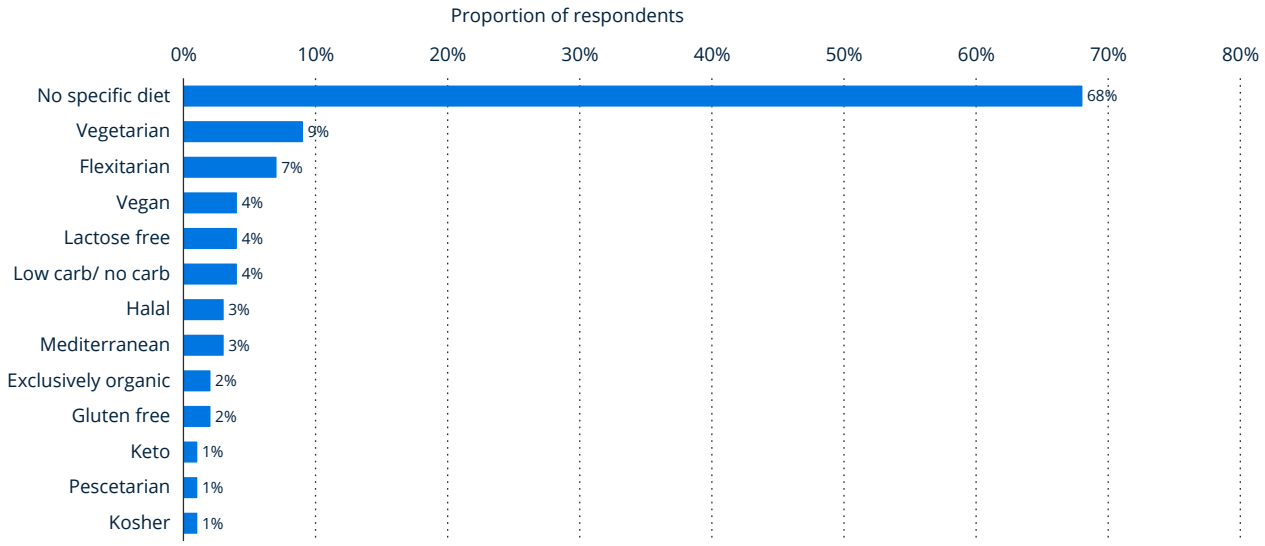
Lisbon treaty animals are recognized as sentient beings. However, for many consumers, the animal protection standards enshrined in current legislation do not go far enough. The majority of the population in many European countries support improvements being made to the welfare of farm animals that go beyond the current legal minimum. The already existing concerns increase, when meat comes from non-EU member states (European Commission, 2016). Farmers, processors of animal products, and retailers are increasingly raising standards of farm animal welfare to meet consumer demand as people become critical of the conditions on farms operating merely to minimum standards. At the same time, many consumers see the reduction of meat consumption in general and of meat and meat products that have a higher standard of animal welfare as an important contribution to animal welfare.

In addition, meat production has been charged with contributing to environmental degradation including increased greenhouse gas emissions, loss of biodiversity, and disturbances in nitrogen-phosphorus soil balance (Bouwman et al, 2013). By 2050, the world's population is expected to increase from 8 to 10 billion people (United Nations, 2019). Combined with continued global warming, such population growth will necessitate a further increase in food production, thereby, exacerbating the burden of non-communicable diseases and devastation of the environment (Willett et al., 2019). As such, decreasing meat consumption in overconsuming developed countries remains key to abating such disastrous consequences in the coming years, and for more and more customers in these countries, sustainability is the main driver to reduce or eliminate meat in resp. from their diets. Reduction strategies include decreasing the amount of meat consumed and often increasing the proportion of other non-meat foods at mealtimes (Kemper and White, 2021; Lang, M., 2020). Replacement strategies include either partially substituting meat with non-meat protein sources in traditional meat-based recipes or fully substituting meat with non-meat protein sources (Kemper and White, 2021; Lang, M., 2020). In this context, the term "flexitarians" was coined. While vegetarianism refers to a meat-free diet and veganism means abstaining from any animal products (including milk, eggs and honey), flexitarians consume as little meat as possible and pay attention to high product quality when consuming meat occasionally. Although a flexitarian diet has no agreed-upon definition and its dietary framework remains open for interpretation about the degree of meat reduction, a low-meat flexitarian diet is recently considered most helpful to bring co-benefits to the tall environmental and health challenges we are facing (Dagevos, 2021). Different information is circulating about the prevalence of this diet, but there is a clear trend towards growth in this target group. Young adults in particular are encouraged to transition to flexitarism by increased

social control; In this context, moving out of the parental home makes it possible to establish new cooking and eating habits, supported by the social environment. Young flexitarians are motivated to reduce meat consumption due to concern about various individual (health, variety, price, reduce social unease) and altruistic (environment and ethics) motivations (Kemper and White, 2021).

Based on its database, the Allensbach Institute for Public Opinion estimates that there are around 7.9 million people (aged 14 and over) who "largely do without meat". The institute expects around 1.58 million people in Germany to follow a diet who largely do without animal products in their diet (Statista, 2022b). Figure 3 shows the results of a consumer survey of 1,001 people over the age of 18 in Germany on the most popular forms of nutrition. Around 68 percent of those surveyed in Germany did not follow any particular eating habits in 2021/22. The vegetarian diet was particularly widespread among the remaining third. 20% of those surveyed stated that they would completely avoid meat or animal products or limit their consumption of meat.

Figure 3 – Survey on popular eating habits and diet types in Germany 2021/22

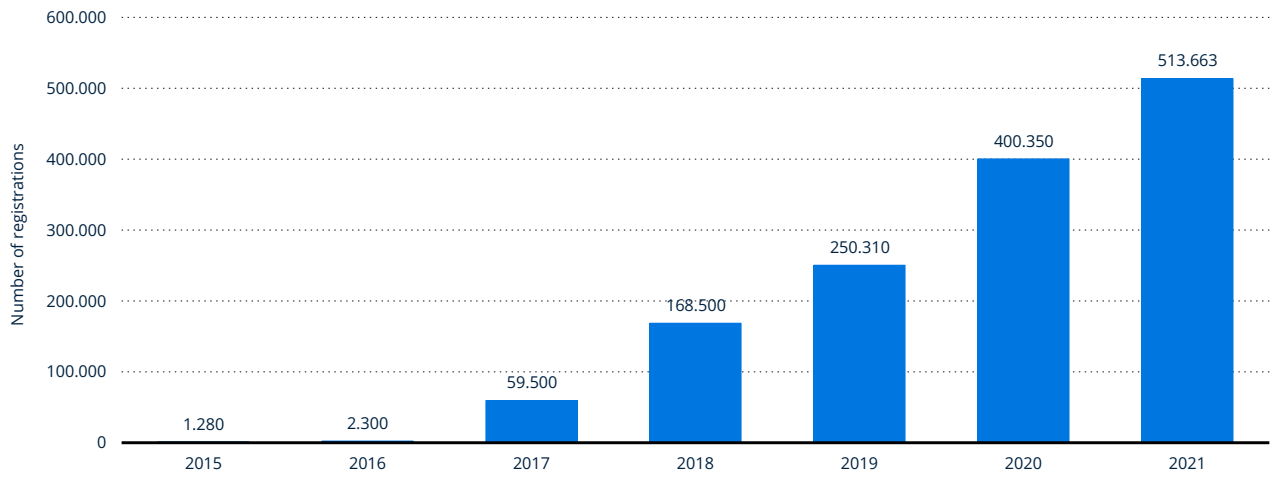


Description: Around 68 per cent of respondents in Germany did not follow any particular dietary habit in 2021/22. Among the remaining third, however, the vegetarian diet was particularly widespread. About 9% of the of respondents stated that they ate a vegetarian diet.
Source(s): STATISTA, POSpulse; PwC

The growing popularity of a purely plant-based diet is also reflected in the number of participants in the "Veganuary". Veganuary is a non-profit organization and campaign encouraging people worldwide to adopt a vegan diet in January and beyond. Figure 4 shows that the worldwide number of participants in the Veganuary has increased

continuously in recent years. While there were only 1,280 registrations for the Veganuary in 2015, the number in 2021 was already 513,663 people. During the 2022 campaign, over 620,000 people signed up for Veganuary to try an all-plant-based diet. After the USA, Great Britain and India, Germany took fourth place in terms of the number of participants (Veganuary, 2022).

Figure 4 – Number of participants in the Veganuary worldwide from 2015 to 2021.

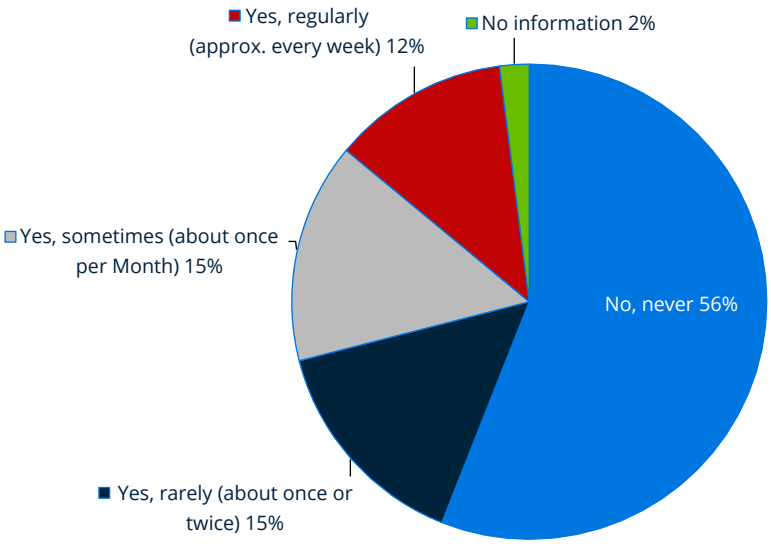


The worldwide number of participants in the Veganuary has risen steadily in recent years. While there were only 1,280 registrations for the Veganuary in 2015, the number in 2021 was already 513,663 people.

Source: STATISTA The Guardian; Veganuary

At the same time, interest in alternative meat substitutes is increasing. This is reflected in the range of vegan and vegetarian meat alternatives in the German food retail trade: The purchase volume of vegetarian and vegan meat substitute products doubled between 2012 and 2018 from 11,000 tons to 21,700 tons. After alternatives to milk and dairy products, alternative meat products were the most frequently sold products in Germany in 2020. In 2020, plant-based food sales were $29.4 billion worldwide. According to the forecast, the market value will increase to 161.9 billion US dollars in 2030 (Statista, 2022c). Figure 5 shows that a survey conducted in Germany in 2022 revealed that twelve percent of those surveyed said they already regularly (approx. every week) buy plant-based meat substitutes. Another 30 percent buy these products at least occasionally.

Figure 5 – Survey on the purchase of vegan meat substitutes in the last three months of 2022.



Description: At 56 per cent, over half of consumers have not purchased vegan meat alternatives in the previous three months. This was the result of a survey conducted in Germany in 2022. However, a further twelve per cent said, regularly (about every week) buy plant-based meat substitutes.

Source: STATISTA, LZ

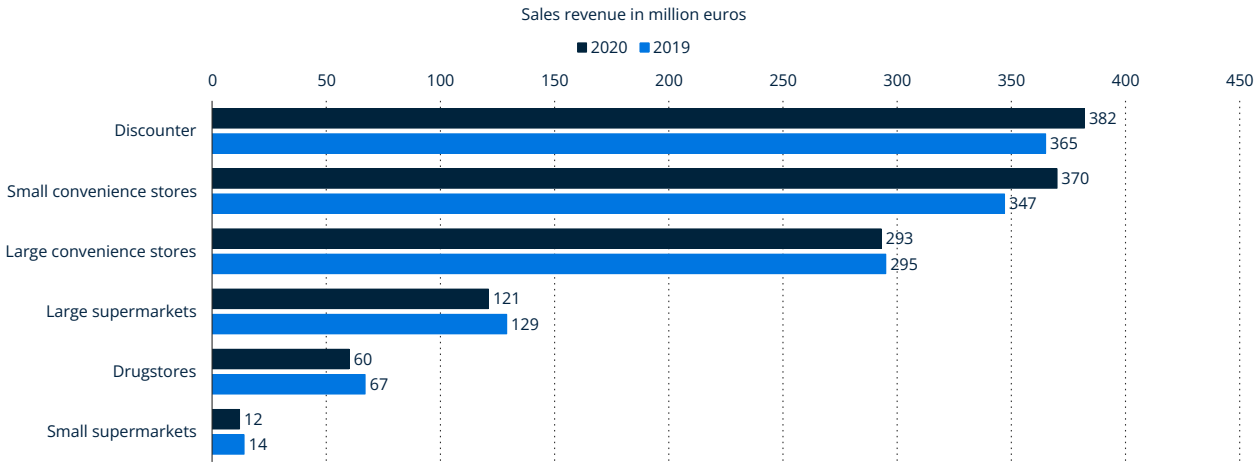
One explanation for this increase is that the products can no longer only be found in health food stores, but have found their place on the shelves of supermarkets and discounters. The entry of conventional meat product manufacturers such as Rügenwalder Mühle also advanced this development. The manufacturer began late 2014 as the first meat-processing company in Germany to include plant-based substitutes in the range. In 2019, Rügenwalder Mühle was able to generate 34 percent of its total sales with vegetarian and vegan alternative products. According to Lothar Bentlage, the managing director of Rügenwalder Mühle, vegetarian and vegan products should account for 40 percent of total sales in 2020 (Deter, 2019).

3. The role of food retail

The agri-food supply chain is a global network with a high degree of complexity due to rapid perishability, change in food quality at different stages of the chain, unlike other supply chains. It is also characterized by other features such as seasonality, uncertainties on both the supply and demand side, and inconsistencies in the quality and quantity of supply. Consumers are the driving force in the food market, which makes them the most important part of the entire food network, and with nearly 83 million of the world's wealthiest consumers, Germany is by far the biggest market for food and beverages in the European Union. The retail market's key characteristics are consolidation, market saturation, strong competition, and low prices. Germany still has some of the lowest food prices in Europe; German citizens spend less than 11 % of their income on food and beverages. However, an increasing share of consumers view their purchasing decision as a political or life-style statement (no GMO, only free-range eggs, vegetarian or vegan diet) (USDA, 2018). Some of the best-known brands in German food retail are Aldi and Lidl among discounters, then Edeka and Rewe among supermarkets. The Edeka Group was the leader on the German food retail market with a 27 percent share in 2021. The Rewe Group and Schwarz Group followed. Rewe operates a chain of supermarkets around Germany of the same name, while the Schwarz Group is behind such well-known names as Lidl, a discount supermarket, and Kaufland, a discount hypermarket (Statista, 2022d).

Today, almost all supermarkets and food discounters have vegetarian and vegan offers in their range and they are reacting to the changed demand for these products. Figure 6 shows the sales of vegetarian and vegan food in Germany in 2019 and 2020, broken down by individual sales channels in the food trade. In the rolling year 2020 (up to calendar week 31), discounters with vegetarian and vegan foods generated sales of around 382 million euros.

Figure 6 – Revenue from vegetarian and vegan foods in Germany in 2019 and 2020, by sales channel (in million euros).



Description: In 2020, the highest sales revenue from vegetarian and vegan food in Germany was generated through discounters at 382 million euros, followed by small consumer markets at 370 million euros. Both figures were an increase compared to the year before.

Note: Germany; 2019 and 2020; 2020: rolling year until calendar week 31/2020

Source: STATISTA, Nielsen

After all, anyone who doesn't deliver vegetarian or vegan options these days is quickly seen as irresponsible and irrational. However, this measure is just part of a series of other measures to increase sustainability along the food chain where companies are directly responsible for their own brands in particular. Many companies are increasingly focusing on sustainable corporate management and are discovering the added value of positive value creation and more sustainable action in order to lay the foundation for a long-term successful business model. Environmental sustainability has become a quasi-industry standard for the ecological transformation of global retailing (Kotzab et al., 2011). Retailers with a sustainable assortment and a sustainable distribution achieve more positive store valuations, stronger shopping intentions and word-of-mouth intentions (Hofenk et al., 2019). When expanding the range with more sustainable and regional products, but also when labeling the goods transparently, the needs of customers and society are always the focus. As retail companies, supermarkets and discounters are often at the end of complex supply chains, while social and ecological deficits often arise at the beginning. With the introduction of transparent labeling of products, customers are given the opportunity to include sustainability aspects in their purchasing decisions. Although sustainability is a broad concept that includes environmental, social/ethical and economic features, the communication of sustainable product attributes on packaging or in stores has essentially focused on the environmental and social dimension of sustainability to satisfy consumer interest (Janßen and Langen, 2017).

4. The ban on Brazilian beef

Consumers may seek to buy products from sustainable sources with less package waste and change their personal habits to a less carbon-intensive lifestyle. Hence, retailers acquire a crucial position in the value chain (Lehner, 2015) as actors in charge of integrating the sustainable activities of the different stakeholders along the supply chain (Hultman and Elg, 2018), particularly between producers and consumers (Haleem et al., 2017). Because retailers deal with the consumer directly, they are often affected by product crises related to food safety and animal welfare issues, and retailers therefore have a high level of interest in safeguarding sustainable behavior in their supply chains (Wiese et al., 2012).

In this context, the German discounters Aldi Nord and Aldi Süd published a press release on February 18, 2022, in which they announced their intention to dispense with beef from Brazil in the future. The discounters are thus clearly positioning themselves against deforestation in the Amazon region. At the same time, they are fulfilling a significant part of their animal welfare promise: as part of the change in husbandry, ALDI is consistently using meat from German origin. The ban on Brazilian beef will apply to all new supplier contracts for fresh meat and frozen goods from summer 2022. In a next step, the discounters check the origin of the processed meat. The declared goal is to end deforestation internationally along the relevant supply chains, such as soya, palm oil and beef, by the end of 2030. Around 85 percent of the fresh meat products sold by ALDI are already of German or even regional origin. ALDI would like to continuously increase this share due to growing demand (ALDI Nord, 2022). At the end of last year, large retail chains abroad, including Lidl and Albert Heijn in the Netherlands, Sainsburys in Great Britain, Carrefour and Delhaize in Belgium and Auchan in France, already announced the delisting of beef products from Brazil. The reason was that, according to research by the environmental organization Mighty Earth, despite guarantees to the contrary, cattle are also raised on farms for which the rainforest was illegally cleared. Meat from the major supplier JBS was particularly affected, but also from Mafrig and Minerva Foods (Proplanta, 2022).

The trading companies are also reacting to the growing criticism of the Mercosur trade agreement within the EU. Mercosur is a regional economic community in southern Latin America comprising Argentina, Brazil, Paraguay and Uruguay. Venezuela has been permanently suspended since 2017. The organization was established by the Treaty of

Asunción in March 1991. Mercosur's central goals are the elimination of tariffs, trade liberalization with third countries and the coordination of economic policies. With a population of more than 260 million people, Mercosur's internal market is the fifth largest economic region in the world. After more than 20 years of negotiations between the European Union and the South American confederation, an agreement was reached at the end of June 2019. The new trade agreement is intended to create the largest free trade area in the world. Furthermore, trade barriers and tariffs are to be further reduced in order to boost the mutual exchange of goods and save costs (Statista, 2022e). The EU currently imports around 200,000 tons of beef cuts per year from Mercosur countries. These imports largely cover the high-value segment of the market. Here, European production dominates with increasing consumer demand. Therefore, despite a tariff rate of 40% to 45%, more than a quarter of this quantity around 45,000 tons of fresh beef and a further 10,000 tons of frozen beef enters the EU market. Under the agreement, the EU will allow 99,000 tons of beef (55% "fresh" high quality beef and 45% "frozen" beef) to be imported at a tariff rate of 7.5%. This represents 1.2% of total European beef consumption (8 million tons annually). The European Commission argues that this amount will be reached in five years and that this gradual introduction will give European beef producers sufficient time to adjust to the new market conditions. There should be no parallel increase in imports. On the contrary, the new quotas for "fresh" beef should, among other things, replace previous imports. Furthermore, the agreed quantities will not lead to a significant increase in production on the part of Mercosur. Brazil alone produces 11 million tons of beef annually, while the agreed quota of 99,000 tons will continue to be distributed among the four Mercosur countries (European Commission, without year). However, the assessment of UN human rights expert and international law professor Oliver de Schutter was quite different: In a study published by Greenpeace e. V. , Misereor e. V. and Dreikönigsaktion - Hilfswerk der Katholischen Jungschar (DKA) in 2020 he cites: "The EU-Mercosur deal is about cars exchanged for beef. It is an insult to all the young people who marched for the climate and to the defenders of [human] rights and the environment in Brazil. The European Parliament must veto it. What we need is coherence between trade and the values the EU wants to defend."

Over time, criticism of the trade agreement increased - from national parliaments, the European Parliament, individual member states such as Austria and France, and civil society. NGOs in particular, such as Greenpeace, are doing everything they can to prevent the trade agreement: together with a network of organizations, they are publishing possible risks of the free trade agreement for the people in Germany, the European agricultural

transition, but also for the Amazon rainforest and the people living there and the great variety of animal and plant species. On November 23, 2021, Greenpeace handed over a petition against the implementation of the agreement in Berlin - a total of 465,970 people signed it (Greenpeace, 2022). The coalition agreement between the German governing parties (SPD, Greens and FDP) still contains the compromise that they want to ratify the Mercosur agreement in principle. First, however, environmental, social and human rights protection as well as "additional agreements for the protection and preservation of existing forest areas" would have to be entered into. The Greens in the government in particular welcome the negotiations on Mercosur, but do not want to be swayed from their ideals. As long as there is no sustainable solution for the Amazon rainforest that goes beyond a change of government, there can be no Mercosur agreement. German farmers also fear that South American farmers will compete with them in their home market. They are especially worried because the South American agricultural sector is considered to be very competitive: farmers there cultivate much larger areas and can sell their products on the world market correspondingly cheaply. In addition, farmers in Europe have to meet much higher requirements, for example in terms of environmental protection and animal welfare. The German farmers' association therefore sees family farms in particular at risk (agrarheute, 2020). Consumer advocates fear that food could come onto the market in this country that meets less strict standards.

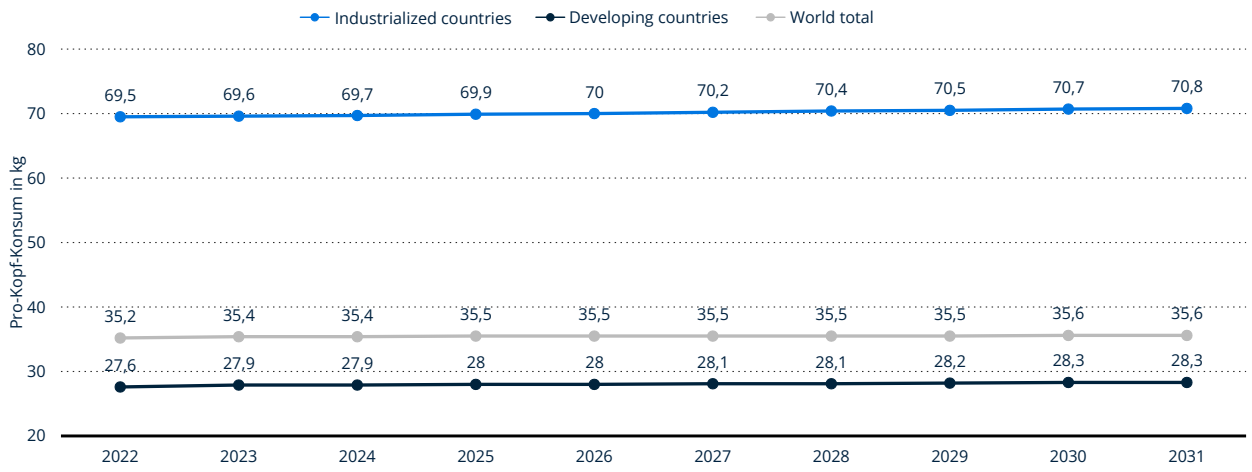
5. Discussion

Against this background, ALDI's decision to no longer purchase beef from Brazil must be placed in an overall social and political context. The goal for the future is to create a "safe-operating space to maintain a Holocene-like state" (Steffen et al., 2015). In order to be able to achieve that, global warming has to be counteracted and environmental destruction to be eradicated. The present food system contributes to both – greenhouse gas emissions as well as environmental degradation. Hence, it needs to be subject of "radical transformation" (EAT, 2019). The EAT-Lancet Commission (2019) has published a report that presents a sustainable diet plan. The diet is based on the development of sustainable, less-environmentally destructive farming practices. It suggests a mainly plant-based eating that is accompanied by animal products for nutritional reasons. While the DGE recommends an annual meat consumption of 15.6 to 31.2 kg per person, depending on energy requirements (DGE 2022), the so-called Planetary Health Diet envisages a per capita consumption of only just under 10.5 kg of poultry meat and 5 kg of red meat per year.

The idea of the environmental vegetarian movement is not new: The publication of Rachel Carson's "Silent Spring" in 1962 marked the beginning of an environmental movement that protested among other against the destructive industrialized food system. Frances Moore Lappé supported the movement writing "Diet for a Small Planet" in 1971. For the first time, the author thematized the environmental destruction and social inequality an industrially focused food system leads to. Although, the movement remains one of the strongest reasons to convert to vegetarianism, it has never been convincing on a broad societal level. Recently, however, something changed. The growing concern about climate change and environmental destruction with regard to the future of humanity on this planet gave rise to a new movement: The environmental vegetarian movement that focus on a plant-based diet to lower greenhouse gas emissions on an individual level (EAT, 2019). It is supported by the prominent scientific conclusions discussed above. Many supporters and activists that are part of the movement, however, do not just aim to lower greenhouse gas emissions. They push for inherent social change. Two of the most prominent examples that have emerged within the past two years are "Fridays for Future" and "Extinction Rebellion". In both movements, vegetarianism – or even veganism – is part of the individual political activism that pushes for the counteraction of climate change and inherent social change. It means more than living scientifically correct. It has become an important part of the new environmental activist identity. (Laier, 2020).

In this context, the question is increasingly being discussed whether the phenomenon of reducing meat consumption for sustainability and environmental reasons is just a short-living trend or a mere youth movement, or an incipient change in values in society as a whole. According to forecasts, the per capita consumption of meat will continue to increase worldwide in the future. For the year 2022, a global consumption of 35.2 kilograms per person is predicted. In 2031, per capita consumption is expected to be 35.6 kilograms of meat. Although the developing countries (grey line in the diagram) consume on average less than half of the meat consumed in the industrialized countries (blue line), an increase in per capita consumption is also to be expected here (see also figure 7). Increased demand is expected for poultry in particular: in 2050, demand for poultry meat could have risen by around 120 percent compared to 2007 (FAO, 2018).

Figure 7 – Projected per capita consumption of meat worldwide by country group from 2022 to 2031 (in kilograms per capita)



Description: According to forecasts, the per capita consumption of meat worldwide will continue to increase in the future. For 2022, global consumption is predicted to reach 35.2 kilograms per person. In 2031, per capita consumption is expected to reach 35.6 kilograms of meat. The per capita consumption of meat in the industrialised countries is much higher than in the developing countries. According to the forecast, per capita consumption in the industrialised countries will be 69.5 kilograms in 2022.

Source: STATISTA, FAO, OECD

Until today, vegans have been the minority of another, superordinate minority, the vegetarians. However, it is also clear that giving up meat is a trend, especially among adolescents and young adults in industrialized countries: in Germany 10.4 % eat vegetarian, 2.3 % vegan. Together, just under 13% abstain from meat, which is about twice as much as in the population as a whole. These are the results of a representative youth survey conducted for the Meat Atlas 2021. The Meat Atlas 2021 is a cooperative project between the Heinrich Böll Foundation, the Bund für Umwelt und Naturschutz Deutschland (BUND) and Le Monde diplomatique. In addition, about 25 % of young

people describe themselves as flexitarians. They only eat meat sometimes, and then they eat meat that they know where it comes from. Of the meat eaters, 44% want to reduce their consumption in the future (Fleischatlas, 2022). A further breakdown by education shows that the higher the level of education, the greater the proportion of both women and men who typically eat vegetarian food. In large cities, the proportion of people who usually eat a vegetarian diet is highest among women and men. A study on the spread of vegetarian diets in Germany, taking into account the variables of gender, age, education, community size and sporting activity, shows that a vegetarian diet is more popular among women, 18 to 29 year olds, people with a high level of education, those who are active in sports and is significantly more common among people living in large cities than in the respective reference group (Mensink et al, 2016).

Although the trend towards a plant-based diet is evidently not spreading equally across all sections of the population in Germany, the figures clearly show that this is not just a hype or a specific youth culture, but a shift in values in, at least, parts of the German society. Especially young and well-educated people see themselves, but also the state, as responsible for sustainable nutrition. Accordingly, there is approval for policy instruments that can support sustainable consumption, such as climate labelling of food (Fleischatlas, 2022). It is also quite obvious that meat or non-meat consumption is now a highly political issue and no longer a question of taste.

The discussion shows that there are various interactions between climate and biodiversity protection, human and animal rights, and free trade between the EU and South America. The German food industry is already committed to sustainable management in the form of numerous activities and initiatives. The starting points are diverse and often very sector- and product-specific, ranging from supply chain and raw material management to energy efficiency and waste avoidance in production to joint social engagement with customers. However, it is the food retail trade in particular that plays a key role within the value chain in the food sector. It is the most important sales channel and serves as a link between food-producing companies and consumers (Umweltbundesamt, 2020). In the discussion panel at the ifo industry dialogue, there was agreement that the retail sector has a great influence on consumer decisions through its food supply and is jointly responsible for enabling consumers to have a sustainable diet. It is considered to have an ecological gatekeeper function, as it can help determine which foods are produced and distributed through its product range. Due to the fact that the market is characterized by a strong concentration on only a few very high-turnover supermarket and discounter chains, the control power of the food retailers is particularly high. Through their

market position alone, they can have a positive influence on environmental and social developments and achieve stricter legislation and regulations (Vogel, 2021). Transparent sustainability reporting is necessary to make the efforts inside and outside the sphere of influence of food retailers tangible. Transparent communication in this regard is increasingly demanded by all stakeholders. Here, it is particularly important to define meaningful Key Performance Indicators together with suppliers in order to identify, quantify and manage impacts on key areas. Furthermore, there is a tendency towards greater comparability in the market, as sustainability standards such as GRI ("the global standards for sustainability reporting") are becoming more and more established.

The future trade relations between the relevant stakeholders in Germany and Brazil will therefore depend to a large extent on the extent to which transparent and independent certification can be established, particularly for products with a large ecological footprint such as meat, but also for e. g. soy, cocoa, coffee, cotton, wine, rice, wheat, and almonds. Like trade agreements, environmental standards for the protection of the Brazilian Amazon rain forest should be enforceable. However, traditional certifications are time-consuming and cost-intensive and are primarily suitable for products in the premium segment. The question therefore arises as to what extent these make economic sense for mass-produced products, resp. who bears the resulting additional costs. In this context, it may make more sense to look for other formats for verifying sustainability standards with correspondingly lower transaction costs, or establish and implement an effective system of traceability. In addition, it should be considered to promote a cross-industry dialogue for a sustainable economy. Important players from very different areas are based in Germany: agricultural trade, food production, chemicals, retail, finance, insurance. Bringing representatives of these and other industries together could expand the successful path of industry solutions and pave the way to solutions that meet the comprehensive concept of sustainable development. This is important because it requires approaches that are accepted by all actors as to how responsibility for environmental and social problems in and around value chains (e. g. for meat) can be shared.

In the end, it is the consumers who decide which foods they want to buy and consume now and in the future. The data clearly show that the topics of sustainability and regionality are playing an increasingly important role for consumers in Germany, but also in other industrialized nations, when it comes to choosing food, and this trend is not expected to reverse again. However, the current situation against the background of the Russian war of aggression in Ukraine shows how quickly established consumption patterns can change: Consumers in Germany are changing their shopping behavior as a result of

the high inflation rate that has been going on for months. The effects of inflation are particularly evident in everyday products such as groceries or personal care products. In this area, the quantities fell sharply between January and May. This was announced by the market research company GfK based on their investigations. 8.2 percent less meat and sausage products, 8.5 percent less fresh fruit or vegetables and seven percent less baked goods were bought. The share of discounters' own brands in total sales grew by 34.6 percent in the first quarter. For 36 percent of people, the price is currently the most important criterion when making a purchase decision (GfK, 2022). This is also to the detriment of organic products: while consumers during the Corona pandemic were happy to buy higher-priced organic food, sales in organic specialist shops fell by 13.4 percent in the first quarter of 2022 compared to the same period last year, reports the Bundesverband Naturkost Naturwaren (2022). However, organic products are still trendy. While sales in the FMCG market as a whole fell by 2.8 percent in the first half of 2022, sales of organic products were stable compared to the previous year. According to GfK, consumers currently prefer to buy cheaper organic products from discounters or retail brands. There are also clear changes when it comes to sustainability when shopping for everyday products: the proportion of people who shopped with sustainability aspects in mind in the last month is from 72 down to 66 percent (Lebensmittelpraxis, 2022). Sustainability is still a purchasing criterion - but only if the price is right.

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