

**Climate Change and Sustainable Consumption –
Consumers Torn Between Increasing Environmental Awareness and
Decreasing Economic Options?**

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1 Introduction

In Germany, the scientific, political and public debates on climate change and global warming have significantly intensified in the past years: The German government calls upon the individual responsibility of consumers, guidebooks on the adjustment of private consumption towards sustainability become bestsellers and online climate-calculators boom (see e.g. Bundesregierung 2008; Busse 2008; Griebhammer 2008; Staud/Reimer 2007; Umweltbundesamt 2009a). Economists discuss such changes on the demand side as a “moralization of the markets” (Stehr et al. 2006). In fact, recent empirical studies of socio-scientific environmental research suggest, that climate change and the climatic relevance of goods and services become more important for consumption decisions of private households (z.B. BLE 2008b; BMU 2006, 2008; GfK 2007). Additionally, consumers express an increased willingness to adopt eco-friendly behaviour and to demand regional and climate-friendly products (BLE 2008a, 2009; Umweltbundesamt 2009b).

However, whether an increased awareness of the environmental impact of private consumption will actually result in changes of consumption patterns and whether this will promote the objectives of sustainable consumption (consuming differently *and* consuming less) remains unclear. At the same time, private households are affected indirectly by climate change due to the long-term increase of prices of energy and energy-intensive products and services (see e.g. Kemfert 2007). This in turn alters the economic scope of private households, even though the vulnerability to price increases varies significantly, e.g. with regard to the type of household or the income situation. Here again, the impact of the changes in the price level on private demand and consumption patterns is yet unsolved.

Against this background, this paper deals with the perception of climate change and price increases and how private consumers adapt to these changes, especially in the areas of energy, mobility and food. The first section is a short review of the main insights of research into environmental awareness, followed by an overview over changes of environmental attitudes in the context of climate change. The second section deals with the increase of prices especially of energy, food and mobility and with the consumption expenditures of private households. The final section focuses on research deficits with regard to the implications of these two developments on (sustainable) consumption. We give an outlook on our empirical study that aims at analysing the way in which different population groups in Germany deal with these coexisting developments and whether those affect their daily consumption routines.¹

2 Environmental Awareness and Behaviour in the Context of Climate Change

2.1 Research on Environmental Awareness

Scientific research related to environmental awareness and underlying attitudes began in the early 1970s in the US. At the time mostly psychologists tried to develop instruments that might help them to investigate people's environmental awareness (Kuckartz/Rheingans-Heintze 1997: 5).

However, to date there is no common definition for the term environmental awareness. In 1978 the so-called *German Advisory Council on the Environment* described environmental awareness as "having an insight into the way mankind endangers its own natural resources and the disposition to act on the environment's behalf" (Rat von Sachverständigen für Umweltfragen 1978: 445, translated by H.K.).

Apart from that there is a number of further, partly contradictory definitions, a majority of whom considers environmental awareness at its core an attitude or "a syndrome of attitudes" (Bogun 2000: 6, translated by H.K.). Typically the term attitude tends to comprise three parts: a cognitive component (referring to perception and thinking), an affective component (referring to emotions) and a conative component (referring to one's disposition to act).

In the 1980s German researchers mostly dealt with the cognitive part of environmental awareness. By furthering the knowledge about the causes of environmental destruction and

¹ First results of our work-in-progress will be presented at the ESA 2009 conference in Lisboa.

everybody's individual contribution to these causes, they hoped to raise environmental awareness. This might then have resulted in a more environmentally friendly behaviour with respect to consumption in every-day life (Lange 2000: 20). However, it soon turned out that the assumption of a linear relationship between knowledge, awareness and behaviour was not in line with reality. The low correlation between awareness and every-day behaviour made both public and scientific discourse phrase the idea of a "gap between awareness and behaviour". In order to better understand this discrepancy, the focus of inquiry shifted from environmental awareness towards environmentally effective behaviour and the factors that may be of influence.

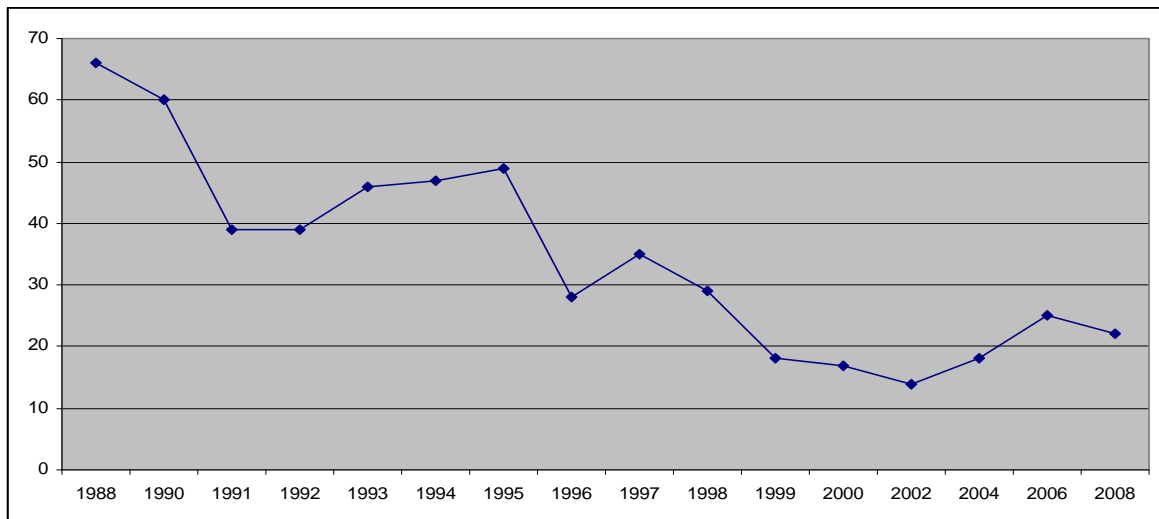
As a result, environmentally relevant behaviour became to be considered extremely complex and heterogeneous, affected by much more than environmental awareness and knowledge about environmental problems. Thus a person's everyday behaviour on the one hand depends on various individual, interpersonal and social factors. Furthermore it is characterised by the lack or existence of incentives for environmentally friendly behaviour or the available options to act. Approaches like the so-called low-cost theory (Diekmann/Preisendörfer 2001) consider people to act according to their environmental awareness as long as it is associated with minimal effort. Once the effort rises above the subjectively perceived cost-benefit ratio (due to loss of time, money, comfort, etc.), environmental awareness loses its importance (Stengel 2009). Furthermore, the social and spatial gap between those causing environmental problems and those affected by them (e.g. with respect to global effects of individual actions) may hinder environmentally friendly behaviour (Diekmann/Preisendörfer 2001; for more details see Neugebauer 2004). Thus there exists a complex interplay of various factors when it comes to deciding for or against a certain course of action. Individual behaviour as well may differ considerably – depending on which environmentally relevant fields, such as mobility, food, uses of energy etc., one chooses to examine at a given point.

Furthermore, research designs and methodology to examine environmental attitudes and behaviour vary considerably. The objective of quantitative standardised research is to arrive at representative statements by means of interviewing a great number of people while qualitative approaches proceed by means of "understanding" and by attempting to apprehend ways to integrate environmental attitudes and behaviour in every-day life.

2.2 Empirical Findings on the Relation of Environmental Attitudes, Behaviour and Climate Change

The *German Federal Environment Agency* conducts a representative survey on “Environmental Awareness in Germany” every other year, which is a reference point for many other studies on environmental issues. According to this survey, the importance given to the field of environmental protection has been in strong decline over the last twenty years (see table 1, BMU 2004, 2006, 2008). Due to the nuclear incident in Chernobyl in 1986 ecology became a priority in West Germany. But, with some exceptions in the early and late 90s, environmental awareness has been declining considerably since the end of the 1980s.

Figure 1: Naming “environmental protection” as one of Germany’s most urgent problems, 1988 to 2008 (percentages)



Ann.: question asked: “*What do you think is the main problem our country is confronted with?*” (open question, two possible options, translated by H. K.); source: authors based on BMU data (2004, 2006, 2008).

However, since 2002 there has been a relatively low but recognisable rise in problem awareness for the field of environmental protection that reached its peak in the year 2006 (25% considering it a problem), followed by a mild decline in 2008 (minus 3%). Nevertheless, “protecting the environment” still ranks 4th among Germany’s perceived most urgent problems, after topics such as the job market, the economy and social issues (BMU 2008: 13). Taking a closer look at the problems named in this field, it is striking that at least for the year 2006 (there is no available data for 2008) the notion of “protecting the environment” is mostly comprised out of topics belonging to the fields of energy and climate protection (BMU 2006:

14).² The possible conclusion may be that protecting the environment was considered more important due to the current debate on climate change.

With regard to the perception of risks related to climate change, different reports point out that the German population considers climate change a major problem. Thus for instance in 2008 more than two thirds of all Germans considered climate change the most alarming environmental topic. The figure rose from 57% in 2004 to 69% in 2008 (Europäische Kommission 2008: 11; European Commission 2005: 11). More than 70% rate global warming as one of the world's gravest problems (Europäische Kommission 2008: 8). However, there is a gap between the perception of a general risk and the feeling to be individually, personally concerned. Only one fifth of all Germans consider their health or financial status endangered by climate change (BMU 2008: 33).

Another discrepancy exists between the behavioural disposition and actual behaviour: In Germany the disposition towards "climate-friendly" behaviour is relatively high (BMU 2008; Dialego 2007; Europäische Kommission 2008; GfK 2007). Furthermore 86% of all Germans "completely" or "rather" agree with the notion that they themselves can significantly help protecting the climate by means of environmentally friendly behaviour (BMU 2008: 32). A majority (56%) still sees a need for action and considers citizens still not to do enough to fight climate change (BMU 2008: 28).³ But, if one regards actual environmentally relevant behaviour, it becomes obvious that (up to now) a given disposition rarely induces active behaviour (BMU 2008: 30; Europäische Kommission 2008: 30; GfK 2007).⁴

Therefore and because of the multiple factors influencing every-day environmentally effective behaviour, it is difficult to predict potential changes in demand-patterns. Despite results of current surveys pointing towards an increased sensitivity with respect to environmental/climate protection due to the debate on climate change, for the time being it remains unclear how this might accordingly translate into behaviour. One factor crucially influencing

² Among those are for instance the independence from oil and gas by means of renewable sources of energy, more sustainable use of energy resources, reduction of climate-active emissions or the construction of low-emission engines (BMU 2006: 14).

³ Among others possible fields of action for climate-friendly behavior include spending habits and use of energy.

⁴ This may be exemplified by the following: Almost nine of ten Germans support a consequent move towards renewable energies (BMU 2008: 30). However, in the same survey only 3% declare to receive green energy themselves (BMU 2008: 34).

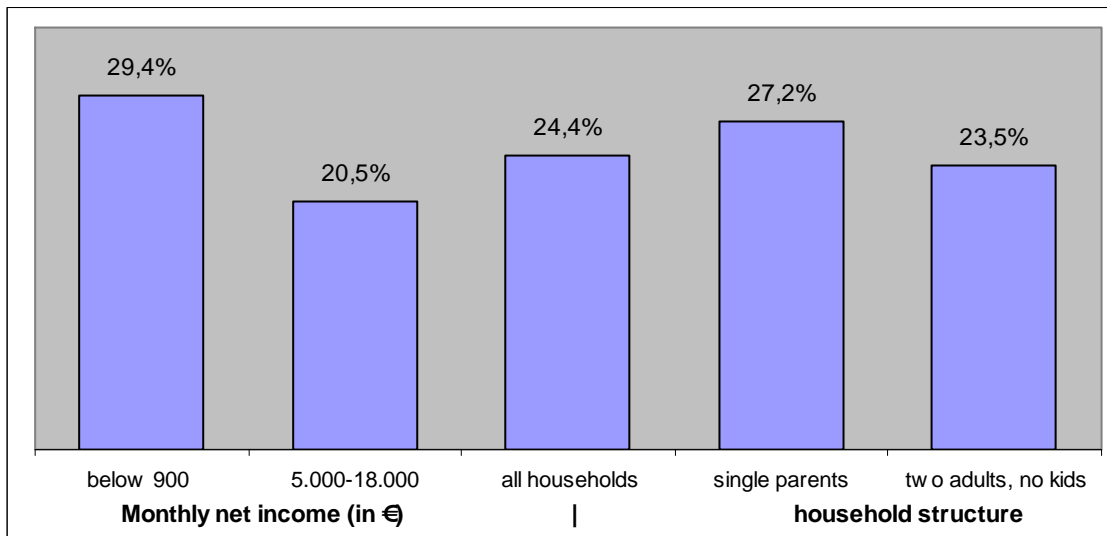
every-day behaviour is the solvency of private households, which has been massively reduced by increase in prices in recent years.

3 Price Increases and Consumption Expenditures

In addition to the intensification of the climate debate, consumers are affected by price increases that are, among others, caused by the scarcity of resources and by the indirect consequences of climate change in the long run. Recent increases in prices have already altered the economic scope of households, which may affect their demand behaviour and consumption patterns. Especially in the past three years, the increase of prices for energy, food and mobility was much higher than the increase of the general price level: While the consumer price index increased by 9.7% between 2005 and 2008, prices for energy (electricity, gas and other fuels) have increased by 40.8%, prices for food by 12.2% and for mobility (goods and services for private cars, transportation services) by 20% (yearly averages). Since these three consumption areas account for almost one quarter of the consumer price index (24.4% in 2005), its increase was mainly caused by rising prices in these three areas.

The overall level of consumption expenditures of private households has remained fairly stable over the past five years, with slight fluctuations on an overall high level (in real terms). However, the level of consumption by individual households varies significantly: Households consisting of couples with two children have the highest consumption expenditures, while the expenditures of households of single parents are clearly below the average. Additionally, significant differences in the absolute level of consumption exist with regard to the net income: Households with a monthly net income below 900 € spend 807 € each month on private consumption, while households with a monthly net income between 5.000 € and 18.000 € consume more than five times as much (4.117 €). In contrast to that, the differences in the consumption-structure are less intensive, both with regard to household type and income situation. Nevertheless, the share of expenditures spent for the three areas of energy, food and mobility decreases with an increase of income. The share of monthly expenditures on these three consumption areas (energy, food and mobility) is one fifth (20.5%) for households with a monthly income between 5.000 and 18.000 € while it is almost one third (29.4%) for households with a monthly income of less than 900 €. With regard to household type, the share of these three consumption areas varies from 23.5% for couples without kids to 27.2% for single-parent households.

Figure 2: Monthly expenditures for energy, food, mobility (2003, % of all expenditures)



Source: authors based on data from Statistisches Bundesamt (2008).

Against the background of stagnant wages, the price increases for energy, mobility and food cause a real depreciation and limit the economic scope of private households. However, the vulnerability to price increases varies significantly with regard to the income situation and the type of household. Therefore, the price increases imply a deterioration of living conditions especially for those households whose economic resources are limited already: Households with low income and households with a high risk of poverty spend a large part of their (small) income on the satisfaction of basic needs, such as food and energy consumption related to housing, so that they are more severely affected by the rise in prices. At the same time, households with a relatively high income are less affected by these price increases, since the share of income spent for these consumption areas with high price increases is smaller. Additionally, their relatively high savings ratio leaves economic scope to allow them to maintain the level as well as the composition of consumption despite price increases, while vulnerable population groups (poor or low income, single parents etc.) are not able to offset the price increases by dissaving or by reducing their savings rate in favour of consumption. Consequently, the increase in prices for energy, food and mobility restrict the economic scope of private households, whereas in particular low-income and poor households as well as single parents are hit by this rise in prices. Due to the fact that the number of energy cut-offs of private households has increased, ISOE (2009) reasons that the recent rise in energy prices causes “energy-poverty” (*translated by D.W.*). Insofar, the increase in prices – partially and indirectly caused by climate change – seems to widen the gap between rich and poor within Germany.

But what is the impact of these developments on prospects and constraints of sustainable consumption? On the one hand, empirical analyses on the structure of consumers of organic and fair trade goods indicate, that there is an increased willingness to pay for ecological goods and services at the top of the income scale (BMU 2008). In contrast to that, the scope for consumption is very restricted at the bottom of the income scale and the willingness as well as the ability to pay for eco-efficient products and services is rather low (BMU 2008). Nevertheless, the *direct* consumption of resources by poor and low-income households is considerably lower than by high-income households (Kleinhüchelkotten 2005; Moll et al. 2005). With regard to the environmental effects of consumption, financial restrictions of poor and low income households lead to an “involuntary eco-avantgarde”, even without specifically demanding ecologically produced goods and services. On the other hand, the consumption patterns of households at the top of the income scale implies – even despite relatively high environmental awareness and the demand for eco-friendly products – higher resource consumption and negative environmental effects caused by the high level of consumption especially in the areas of energy and mobility.

4 Does Climate Change affect Consumption?

In sum, in recent years works from the field of the socio-scientific environmental research as well as market-research studies have pointed out that an intensification of the debate on climate change – in the academic, political and public spheres – may have lead to an increased awareness of the problems related to climate change in general. Specifically it may also have caused a greater sensitivity for the ways in which private consumption affect the environment. Therefore great parts of the population claim their willingness to adopt a more environmentally friendly consumption behaviour. At the same time private households are confronted with rising prices for energy, mobility and food, reducing their financial scope. There are, however, considerable variations in how far households are vulnerable to those fluctuations, depending on their structure and income situation.

Thus the question arises if and in which respect these two simultaneous developments – the growing acceptance of green consumption-patterns and the massive increase in prices – influence actual consumption behaviour. So far, many open questions remain on the actual impact of these two developments on (sustainable) consumption and on strategies private households utilize to oppose the challenges caused by climate change and limited financial scope. On the

whole considerable research needs to be done on the results of the debate on climate change as well as on the impacts of rising prices on consumers' every-day behaviour.

At this point our research project on changes in demand and consumption-patterns sets in: while referring to the presented results, we are interested in the interplay of attitudes related to climate change, dispositions to act and the actual behaviour in every-day life. This interplay is highlighted against the background of the changing financial scope of private households. Our objective is to find out how different groups of consumers perceive these developments, how they cope with the changes and whether their consumption-routines are affected by the intensification of the debate on climate-change and rising prices. Apart from that this study aims at conclusions relevant for the goals of sustainable consumption, for instance how these dual developments affect demand for regional and climate-friendly alternatives and how it influences the immediate use of resources:

Does the coexistence of the debate on climate change and rising prices open up a “window of opportunity” for sustainable consumption or – quite to the contrary – do the economic constraints on households rather limit the extent of sustainable consumption? How do these developments and strategies affect the two objectives of sustainable consumption – consuming differently *and* consuming less?

In order to cover and comprehend the actual decision-making factors pro or con certain environmentally relevant daily routines in their entirety, we conduct our qualitative explorative research by means of guided one-to-one interviews and focus groups. The members of the focus groups and the persons interviewed individually are to be affected in various ways by the above described developments: On the one hand the focus is on single parents, because they run a higher risk of poverty thus being more deeply affected by rising prices (Die Senatorin für Arbeit 2009). On the other hand there are members of environmental organisations (BUND), who are supposed to show avid interest in climate change and in environmentally friendly consumption. The study's ultimate goal is to generate a better understanding of these two consumer groups and their respective strategies in the context of the debate on climate change on the one hand and of rising prices in central fields of consumption (use of energy, mobility and food) on the other hand.

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