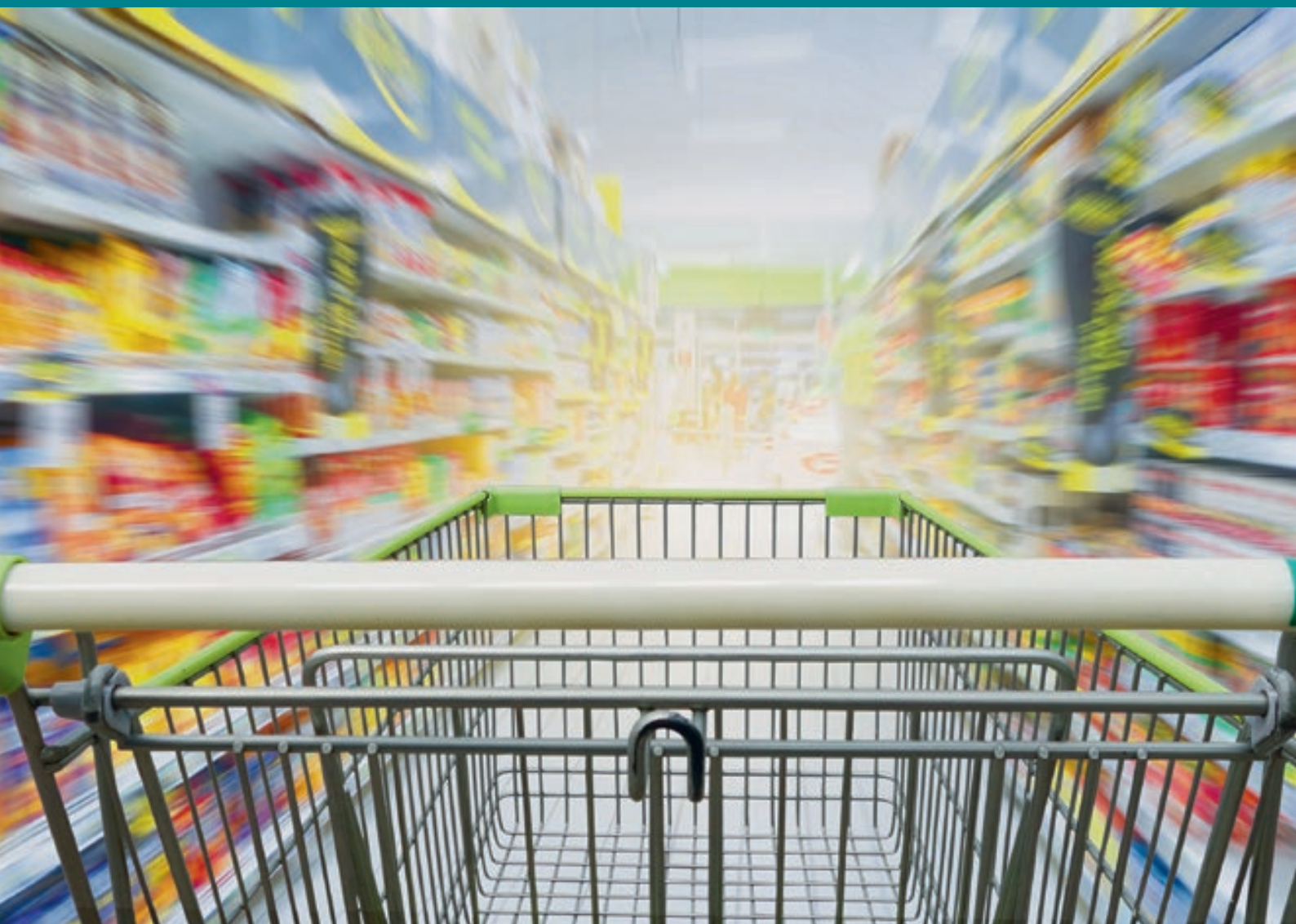
The
Federal Government

National Programme on Sustainable Consumption

From Sustainable Lifestyles towards Social Change



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Executive summary

Subject and aim

The consumption of products and services fulfils a diverse range of social and individual functions. It is one of the foundations of economic growth and prosperity and enables consumers to meet their needs for things such as food, housing, mobility and entertainment and to individualise their lifestyles. However, the consumption of products and services, along with their use and disposal, also has a significant influence on people's economic and social situation, and beyond that on the state of the environment.

Private household consumption is responsible to a great extent for resource use and environmental impacts. It therefore follows that it also holds great potential for reducing the strain on the environment, not only in the field of climate change mitigation but also with regard to biodiversity, responsible resource management and other environmental issues. Consumption also influences social aspects such as the participation of all social groups, working conditions across the value chain and the diversity of the supply structure.

Sustainable consumption means living within the Earth's carrying capacity and ensuring that today's consumption patterns do not jeopardize the ability of current and future generations to satisfy their needs. The German government's National Programme on Sustainable Consumption describes the relevant fields of action and details specific measures for each one, some of which need further attention. The programme does not represent the end of a process but a way for Germany to drive the necessary structural change towards sustainability in the economy and society.

Issues and fields of action

The National Programme on Sustainable Consumption is divided into five chapters.

The **first chapter** identifies aims and areas where there is a need for action, along with measures the German government has already initiated to address sustainable consumption. It illustrates that sustainable consumption is a real possibility but that there are still obstacles to be eliminated.

The **second chapter** explores the principle of sustainability and develops key ideas for a sustainable consumption policy. The National Programme on Sustainable Consumption hinges on five key ideas:

1. Making sustainable consumption a feasible option for consumers
2. Taking sustainable consumption out of the niche into the mainstream
3. Ensuring all sections of the population participate in sustainable consumption
4. Looking at products and services from a lifecycle perspective
5. Shifting the focus from products to systems and from consumers to users

The **third chapter** describes cross-cutting approaches designed to systematically strengthen and expand sustainable consumption with the help of specific proposals for action. The programme addresses the following cross-cutting approaches:

A debate within society: discussions and reflection on lifestyles and possibilities for encouraging a change towards sustainability.

Education: communicating knowledge about the environmental, economic and social impact of consumer behaviour and developing competence as a key foundation for sustainable consumption.

Consumer information: making information more practice-oriented so that people can actually experience sustainable consumption first hand and understand what it means.

Environmental and social labels: further developing and strengthening credible and ambitious labels and standards.

Ecodesign: paying greater attention to lifecycle-based principles and practices in ecodesign.

Sustainable public procurement: complying with environmental and social standards and being aware of the public sector's opportunity to lead by example.

Research on sustainable consumption: research on the impacts of consumption and consumer behaviour and development of potential solutions in specific projects such as the "second price tag".

Social innovations: systematically recording, using and helping to better harness the potential of social innovations to promote sustainable consumption.

Monitoring sustainable consumption: developing indicators and benchmarks for the impacts of consumption, which should also make it easier to measure changes in consumption behaviour.

In addition to these cross-cutting fields of action, six fields of need –including respective measures – that are particularly relevant to sustainable consumption are addressed in the programme's **fourth chapter.** They are:

Mobility: The aim is to make transport in the future more efficient, environmentally sound, resource-efficient and safe, bearing in mind that individual, changing mobility needs must be addressed. The measures include the following approaches:

- Facilitating climate-friendly forms of mobility
- Promoting teleworking and mobile working
- Promoting integrated mobility
- Reducing the need for everyday travel

Food: The aim is to achieve a healthy diet that fits in with everyday life, respects animal welfare, does not harm the environment and is affordable and feasible for all consumers to put into practice. The measures include the following approaches:

- Establish a sustainable diet as a health-promoting factor
- Establishing sustainable food as an environmental concept
- Reducing food waste
- Promoting local food

Home: The aim is to strengthen consumer competence in order to reduce the impacts on the environment caused by routine housekeeping activities and to expand the use of resource-efficient household goods. The measures include the following approaches:

- Promoting more widespread use of energy-saving, resource-efficient household goods that are better for our health
- Promoting new forms of living arrangements in the community
- Reducing consumption-related household waste
- Supporting interventions to encourage economical heating behaviour

Workplace and Office: The aim is to make sustainable Information Communication Technology (ICT) products more widely available and use them longer, and to raise consumer awareness of the environmental and social consequences of these appliances. A further aim is to promote the use of recycled paper and also to avoid using paper where possible. The measures include the following approaches:

- Raising consumer awareness of sustainable ICT and expanding the range of sustainable ICT products
- Working towards extending the life span of ICT products
- Promoting sales of recycled paper

Clothing: The aim is to generate greater awareness for sustainable clothing consumption. This will include, for example, encouraging people to use articles of clothing for longer and thus reduce the absolute consumption volume, while at the same time increasing the market share of sustainably produced textiles in the clothing market. The measures include the following approaches:

- Creating awareness around sustainable clothing consumption
- Promoting innovative infrastructure and business models for maintenance, re-purposing and re-using clothing textiles
- Reducing the possible risks to health and the environment associated with new types of functional textiles

Leisure and Tourism: The aim is to reduce the environmental and social impacts caused by holiday and business travel and to ensure that the interest and understanding of the need to make travel and holidays more sustainable, which many people have, actually translates into action. The measures include the following approaches:

- Making sustainable tourism transparent
- Promoting climate-friendly holidays
- Promoting leisure products and services as sustainability oriented learning environments

The **fifth chapter** explains how institutional support for the programme works and how stakeholder involvement will continue to be guaranteed. To this end, the programme intends to create a kind of platform, designed both to expand instruments and approaches that have already proved successful and also to instigate new projects. The idea is that this will help to reflect adequately the diversity of approaches in the field of consumption and encourage as many actors as possible to participate – because a change in consumption patterns in our society towards greater sustainability can only be achieved with the participation of all parts of society. The programme is therefore primarily the first step on the path towards sustainable consumption and a sustainable lifestyle.

1 Consumption – a field of action that is crucial for sustainable development

Sustainable consumption means living within the Earth's carrying capacity and ensuring that today's consumption patterns do not jeopardize the ability of current and future generations to satisfy their needs.

Due to the fact that today's production processes are so globally interdependent and have many different impacts, including on the environment, consumption in Germany usually also has an effect on the ability of people outside Germany to satisfy their needs.

The universal significance of this issue was once again codified in the agenda agreed upon at the UN sustainable development summit held in September 2015 in New York entitled "Transforming Our World: The 2030 Agenda for Sustainable Development." The agenda sets out specific goals for the entire international community. The recognition that genuine sustainability can only be achieved if environmental, social and economic concerns are given adequate and equal attention and if all relevant stakeholders (government, civil society, business, the public) have the opportunity to participate was of particular importance.

As the German Parliament's Study Commission on Growth, Prosperity and Quality of Life has been discussing, this also involves a critical examination of our lifestyles and of what we mean by prosperity.

Making consumption significantly more sustainable is a challenge that must be tackled by society as a whole. It is the responsibility of everyone: the public sector, commerce, industry and every individual.

While it is crucial that consumers are not made to shoulder the entire responsibility, their commitment and participation in shaping policy is nevertheless essential.

Supply and demand are closely interlinked and usually interdependent. This must also be taken into account in sustainable consumption, that is on the demand side.

To date, policies concerning the production of goods and services have focused on regulations and programmes aimed at achieving more sustainable design. By contrast, the National Programme on Sustainable Consumption aims to address the demand side and the impacts of consumption.

The consumption of products and services fulfils diverse social and individual functions. It is one of the foundations of economic growth and prosperity and enables consumers to meet particular needs for things such as food, housing, mobility and entertainment and to individualise their lifestyles. Current lifestyles in the industrialised countries are usually associated with high use of energy and natural resources.

The purchase, use and disposal of products and services cause emissions and consume resources and in some cases give rise to undesirable social and environmental impacts across the entire value chain, such as working conditions in some countries that are potentially harmful to health. At the same time, businesses are continually refining their products within the competitive conditions of the market economy. The technological progress that results from this competition helps to resolve social and environmental problems.

However, efficiency gains resulting from the use of energy-efficient products, for example, are often reduced by growing demand – a phenomenon that is known as the rebound effect. Efficiency gains alone – in the sense of a lower specific energy demand per product or service – are therefore not sufficient to curb the impacts associated with consumption and its use of resources.

Consumption incurs external costs in the form of environmental damage such as climate change, loss of biodiversity, land take, acidification of soils, or overuse of water that are shouldered by the entire community. Often impacts of this kind occur abroad or will only actually be felt by future generations.

Current use of natural resources already exceeds the Earth's limits in many areas.

But without functioning global ecosystems, prosperity is not possible in the longer term. If we are to fulfil our global responsibility, it is vital that our consumption behaviour becomes more sustainable.

However, the way to achieve this is not to take away consumer choice nor for governments to act in the belief that they are better business leaders. Consumers should voluntarily make the behavioural changes needed and governments should create a conducive environment to enable them to do this. Sustainable consumption decisions can be supported in a range of ways, including providing information and education and through alternative products and services that are sustainable. While working towards sustainability goals, it is important not to lose sight of the economic effects – in the form of bureaucratic or production costs, for example.

Promoting the environmental, social and economic potential of sustainable consumption and lifestyles requires a strategic and coherent approach. Governments need to lead by example in this, sending decisive signals and playing a moderating, flanking, facilitating and – where necessary – steering role. They can lead by example through sustainable public procurement and moderate by promoting strategic alliances and networking among relevant stakeholders and organising dialogue processes. They can facilitate and flank by increasing the resources needed for implementation or supporting innovation in sustainable consumption by investing in research and development and steer by creating the necessary legal and economic enabling environment. The measures proposed by the programme will be implemented as part of the different government departments' existing budgets, provided the necessary budget funds are available.

The programme is intended to help consumers to better understand the environmental and social impacts of their consumption. It aims to identify alternative consumption patterns and strengthen sustainable alternatives, without removing consumers' right to make their own decisions. Furthermore, it intends to strengthen incentives for innovative approaches that are in keeping with the market and facilitate sustainable consumption. At the same time, it seeks to stimulate a broader national discussion about lifestyles and a change in values that also takes regulatory and economic aspects into account.

The programme addresses not only consumers but all relevant stakeholders such as the business community, commerce, civil society, the scientific community and academia, the media, local authorities and also the public sector in its role of demonstrating good practice. It is not possible to assign the entire responsibility for sustainable consumption to any single group. On the contrary, the starting point must be the principle of shared responsibility.

1.1 Sustainable consumption is possible

Sustainable development and environmental protection issues have become increasingly established principles in our society and everyday culture in recent years. The public see environmental protection and climate action as important in tackling long-term tasks. Currently, almost two thirds of Germans believe that adequate environmental protection is a fundamental condition for mastering social challenges of the future, such as globalisation, creating jobs, boosting German industry's competitiveness, and also issues to do with promoting the general level of prosperity.

Almost two thirds of Germans agree with the statement that the environment can only be protected in the long term if everyone adopts consumption patterns that conserve resources.

This general and gradual change in awareness has allowed an openness towards sustainable consumption to develop in the population, as studies by the Federal Environment Agency (UBA) on environmental awareness between 1996 and 2014 show. For example, a rising demand for "green" products can be seen, along with a widespread willingness to switch to environmentally friendly alternatives. In particular, there is a growing willingness to opt for alternatives that do not mean "doing without" but instead represent added value for the individual and at the same time can bring about cost savings. That includes, for example, choosing to cycle to work each day rather than driving, which can also have positive health benefits. These alternatives increasingly focus on quality of life, which is based on immaterial as well as material factors and minimise the negative environmental and social impacts of people's individual everyday behaviour as far as possible. Nevertheless, there is still a discrepancy between the environmental awareness of many consumers and their actual behaviour.

Society in Germany has started to think about issues concerning sustainable consumption. In some areas, the direction of travel of environmental and consumer policy has already brought about lasting consumption structures that are geared to sustainability. For example, almost two thirds of Germans always or very often opt for energy-efficient alternatives when buying household appliances and lamps and light bulbs; over one third of the population says that they have purchased green electricity and the majority of consumers choose cleaning products labelled as environmentally sound. It is important to further boost this positive trend.

1.2 Obstacles to sustainable consumption

Despite these positive developments, many people are only just beginning to think about sustainable consumption. As with all transformation processes, these changes are accompanied by many uncertainties, as well as practical obstacles and structural barriers – both on the supply and on the demand side.

1.2.1 Information deficits

The situation regarding information on the environmental characteristics of products and services has improved significantly in recent years. At the same time, a great deal of information about the environmental and more especially the social aspects of the value chain are either not available or are – rightly or wrongly - not considered to be credible. Malpractice and deception in product labelling compromise the trust needed. This makes it more difficult for consumers to access comprehensive and transparent information on which to base their decisions. Furthermore, many labels of varying quality and credibility are a factor in creating uncertainty among consumers, who feel bombarded with excessive information. For example, product labels that have not been certified by an independent third party are used to create a "green" reputation for products that do not actually comply with the high-level sustainability standards. This is known as "greenwashing".

1.2.2 Behavioural routines and path dependencies

Among the obstacles to transitioning to sustainable consumption are the routines and habits in people's everyday lives, when they do not consciously reflect on their behaviour and therefore do not make sustainable choices. This applies in particular to everyday consumption in areas such as food, mobility, the home et cetera. Users often see a change in their consumption behaviour as uneconomical, causing additional work or not bringing sufficient benefits to their everyday lives.

1.2.3 Availability of affordable alternatives

In addition to the fact that information about production methods is sometimes inadequate, there are currently still not enough sustainable products and services purchased. They are either not known as alternatives, not available or significantly more expensive and therefore do not represent an economical choice for consumers.

The reasons for this are many and diverse. Often, sustainable alternative products are genuinely more expensive to produce and distribute. It is also possible that consumers are not sufficiently aware of possible whole-life savings. The reason for that is that suppliers still do not trust that purchasers would be willing to choose sustainable alternatives so that few products and services of this kind are developed and sold. By contrast, sustainable products are also marketed by some companies as premium products with relatively high trade margins. This puts them beyond the reach of some consumers who do not have the financial resources to buy them.

1.2.4 Lifestyles and social norms

A change in consumer behaviour is also crucial to achieving more sustainable consumption. The lifestyles that have become established in industrialised countries are to some extent still an obstacle to sustainable consumption. Changing consumption behaviour in the industrialised countries towards sustainability is therefore particularly significant – both with regard to the environmental impacts that are associated with the manufacture and subsequent disposal of products and in terms of the significance that consumption behaviour in the industrialised countries has as a role model for the growing middle classes in developing countries and emerging economies.

In the light of these obstacles, the necessity to integrate the different policy approaches and responsibility for them becomes obvious as the way to achieve a coherent course of action to promote and strengthen sustainable consumption.

1.3 Sustainable consumption as an element of German government policy

A number of different policy areas – such as consumer and health policy, agricultural policy, policies on construction and housing, infrastructure and transport, research and education, the environment, labour law and social and economic policy – contribute to setting the legal framework for consumption in Germany. Initiatives and measures to support sustainable products and sustainable consumption patterns already exist in all these policy areas and at all political levels.

The 2002 National Sustainable Development Strategy explicitly mentions the need to change behaviour and consumption patterns, and the progress report on the National Sustainable Development Strategy, published in 2012, stresses the importance of a discussion in society on lifestyles and responsible consumption. Research has reached the same conclusion: the question of what sustainable consumption consists of is something that also has to be negotiated in society. Targeted efforts must be made to ensure consumer participation. Furthermore, the programme of measures on sustainability the German government adopted in 2015 contains specific instructions on procurement at federal level and sustainability criteria for federal ministries and the agencies that report to them with to be met when operating staff canteens and organising events.

In terms of resource conservation, the German Resource Efficiency Programme (ProgRess) set out parameters, referring, for example, to creating public awareness of resource efficiency and to promoting sales of resource-efficient products and services. The national waste prevention programme, which was adopted by the German government in 2013, also contains important drivers for sustainable consumption. Furthermore, the National Biodiversity Strategy includes a requirement to continually boost the demand for environmentally sound products and services. The Federal Environment Ministry launched a new broad-based dialogue process on sustainable consumption and biodiversity in 2014. This dialogue process will be integrated into the implementation of the National Programme on Sustainable Consumption.

Furthermore, in its meeting of 1 June 2015, the State Secretaries Committee for Sustainable Development once more underlined the importance of sustainable consumption and decided to step up the German government's activities and incorporate the programme into them.

The government also declared the subject of sustainable organisation of global supply chains and health and safety in the workplace in developing countries to be one of the priorities of its G7 presidency and recruited the support of the G7 countries for this initiative. On the instigation of the Federal Ministry of Labour and Social Affairs (BMAS) and the Federal Ministry for Economic Cooperation and Development (BMZ), the German government put measures in place within the G7 process to promote better working conditions, prevent risks and improve complaints mechanisms. In this way, it supports the responsibility of businesses for employment and social standards in global supply chains and strengthens the importance of international agreements such as the International Labour Organization's (ILO) Core Labour Standards and the Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises. Specific projects include setting up a Vision Zero Fund to support more sustainable health and safety measures, particularly in poorer producer countries. This includes strengthening work inspections, setting up accident insurance schemes and improving health and safety in companies.

The instruments used in all these areas range from information about public procurement and funding measures through to regulatory law.

Consumer information is supported through various interventions: legislation (for example the Consumer Information Act), energy performance certificates credible ecolabels such as the Blue Angel and origin and organic labels. Furthermore, the Sustainable Shopping Basket, which was set up several years ago by the Council for Sustainable Development, the consumer portal launched by UBA in 2013 entitled Umweltbewusst leben (Green Living) and siegelklarheit.de – a portal instigated by the German government in 2015 to help consumers find their way through the label jungle - are all contributing to better consumer information.

A range of activities at national level are designed to expand **sustainable public procurement.** They include setting up a Competence Centre for Sustainable Procurement within the Procurement Office of the Federal Ministry of the Interior (BMI), the information portal on environmentally sound procurement established by UBA, the German government's procurement directive for timber products, for which the Federal Ministry of Food and Agriculture (BMEL) has lead responsibility and the Sustainability Compass (Kompass Nachhaltigkeit), an online procurement platform developed by the Federal Ministry for Economic Cooperation and Development (BMZ) which, due to the high degree of importance attached to local authority procurement, has an integrated tool for local authorities – the Local Authority Compass (Kommunaler Kompass).

As part of the National Climate Initiative, for example, numerous projects have been instigated and supported as **funding measures** since 2008, which encourage more climate-friendly behaviour on the part of businesses, consumers and local authorities and help to lower greenhouse gas emissions.

As part of its social-environmental research programme, the Federal Ministry of Education and Research (BMBF) has, for a long time now, been funding interdisciplinary and transdisciplinary research projects on sustainable consumption in funding measures focusing on different topics. Currently, the green economy funding measure (2014 to 2018) is supporting projects in which sustainable consumption is one of the main areas of investigation (for example consumer behaviour).

Sustainable consumption also requires businesses to act sustainably. The German government awards its Corporate Social Responsibility (CSR) prize to companies that have contractually committed to ensuring that their business activities are environmentally, socially and economically responsible. This is a way of endorsing the path chosen by businesses that act sustainably.

A number of **legal measures** – such as regulations relating to ecodesign for products, fuel consumption labelling for cars, the Energy Conservation Regulations, promotion of reusable packaging by imposing statutory deposits on certain one-way drinks packaging, take-back obligations for packaging, electrical and electronic appliances, batteries and vehicles and warranty law – also support sustainable consumption.

In financial terms, a sustainable financial policy is a key requirement for sustainable development and a major element of intergenerational equity. An important step towards this is to ensure that national budgets do not incur new debt, which is the case for Germany's 2016 budget and the current finance plan. This leaves the way open for options for action in the future. At the same time, Germany needs sustainable investment particularly in the fields of education, science, research, energy efficiency, resource efficiency and infrastructure. In this respect, sustainability criteria are becoming an increasingly important factor when assessing the use of public finances. Making subsidies subject to a sustainability impact assessment, which was introduced in 2015, addresses this issue. Furthermore, the modernisation of public contracts legislation has made it easier to take sustainability criteria into consideration. This has an important impact on public procurement and therefore on sustainable consumption. In this context, any measures taken under the National Programme on Sustainable Consumption have to comply with budgetary principles obliging public administrations to act in the interest of economic efficiency and thrift. Any measures in the programme that are not already running or earmarked for continuation are either awaiting definitive clarification or depend on other stakeholders. Some of the measures therefore only have the character of suggestions.

These strategies, programmes and legal regulations illustrate the numerous starting points that can be used to strengthen synergies between individual measures and programmes and promote sustainable consumption.

This is where the National Programme on Sustainable Consumption intends to take action, by taking forward projects that have proved successful, pooling them and refining them where necessary. In the following chapters, however, new approaches will also be described.

1.4 Sustainable consumption – an international policy field

Promoting sustainable consumption has also gained international importance in recent years. At global level, the topic was introduced into the political discussion at the United Nations (UN) Conference in Rio de Janeiro in 1992. At the 2012 World Summit, which was once more held in Rio de Janeiro (Rio+20), a ten-year framework of programmes on sustainable consumption and production patterns (10 YFP) was adopted. The idea behind this is to shift consumption and production patterns towards greater sustainability worldwide. To this end, important global programmes were adopted as international implementing measures for the period up to 2022, covering issues such as consumer information, lifestyle/education, public procurement and tourism, along with a global information platform for projects in the field of sustainable consumption and production patterns. They are directed not only at national governments but also at all relevant interest groups from businesses through to consumer organisations.

Sustainable consumption also plays an important role in the new 2030 Agenda for Sustainable Development – first as a cross-cutting theme in the agenda as a whole and secondly as a separate goal (Goal 12). One of the latter's target is worldwide implementation of the ten-year framework of programmes on sustainable consumption and production patterns by 2030. The Agenda's goals are to be assessed nationally, regionally and globally using international indicators.

There are also a number of instruments at European level which have a significant impact on sustainable consumption. For example, the Ecodesign Directive and its implementing measures regulate market access for energy-using product groups. Under the EU Timber Regulation, which came into force in March 2013, all affected businesses must ensure that no illegally harvested timber is placed on the EU market. To support government agencies, businesses and consumers, the German government set up the Thünen Centre of Competence on the Origin of Timber.

Under the Energy Labelling Directive, manufacturers of certain product groups are obliged to give customers information about energy consumption and other product characteristics. Similarly, a framework for public procurement - including environmental and social considerations - is being established at EU level. This area is constantly being developed, in a similar way to the EU ecolabels. Furthermore, in spring 2013, the European Commission published a communication on Building the Single Market for Green Products. The aim is to improve the availability of reliable information on the environmental performance of products and businesses by developing and using product environmental footprints (PEFs). The EU's Roadmap to a Resource-efficient Europe sets a long-term framework of actions designed to conserve resources in many policy areas.

1.5 Megatrends – sustainable consumption in a changing environment

Consumption is not determined by policy frameworks alone, but primarily by a constantly changing social, economic and technical environment. The trends described below have sometimes direct and sometimes indirect effects on future consumption behaviour or environmental policymaking. They play a major role in sustainable consumption. What all the trends have in common is that they hold challenges, but also opportunities, for sustainable consumption.

1.5.1 New consumption patterns and different business models

Environmental awareness in Germany is high. According to the 2014 environmental awareness study published by BMUB and UBA, environmental problems, as in previous years, are rated as among the most serious of the problems perceived. As a result of the growing awareness, lifestyles geared to sustainability have developed, which place a higher value on products having been produced in an environmentally sound and socially responsible way. This change in attitude, which pays greater attention to the consequences of people's individual behaviour, is increasingly being reflected in initiatives and trends such as slow food and car sharing – especially in towns and cities.

The changes in consumption practices have to some extent produced new, innovative business models. Even if they are not yet widespread, the sharing economy, collaborative consumption and the emergence of what are known as "prosumers," who in personalising their products are both consumers and producers at once, are important examples of a development that not only holds great potential for sustainability but also heralds the appearance of new kinds of markets for services.

1.5.2 Digital life

What is known as the networked society, that is the digitalisation and networking of everyday life that has been made possible by ICT, has far-reaching effects on consumption patterns, with the opportunities and risks of ICT for sustainable consumption being very closely interlinked.

On the one hand, an increase in people's information-seeking behaviour – a search for alternative consumption products and practices combined with a general rise in available information – can be observed. ICT makes more environment-friendly production methods and more energy-efficient applications possible. For example, video conferencing and Electronic Commerce (e-commerce) have reduced the necessity to travel and the volume of private motor traffic. The internet also facilitates alternative types of activity, such as online trade in used goods (for example eBay) or searching for public transport or car sharing options.

At the same time, in its manufacturing and use phases (for example internet searches), ICT is associated with high consumption of energy and other natural resources and possibly also with poor working conditions. E-commerce, which has become increasingly globalised, also has the potential to increase transport and traffic volumes and has serious effects on urban and transport

structures. Furthermore, ICT's short innovation cycles are, on the one hand, a positive expression of underlying innovative strength that can promote the development of technical solutions to sustainability challenges. However, on the other hand, they also contribute to shortening the useful lifetime of end-user equipment, with the result that new equipment is purchased more frequently, increasing resource use.

1.5.3 Globalisation of production and trade patterns

Although it is no longer a new phenomenon, the increase in global production of goods and services, international trade and foreign direct investment is one of the megatrends relevant for sustainable consumption.

Sustainable consumption is concerned with the entire product value chain, starting with raw material extraction. A key consumption-related aspect is the tendency for products that are used in the industrialised countries to be increasingly frequently manufactured in developing countries and emerging economies. This can make a key contribution to the development of prosperity in these countries and thus be crucial for sustainable development. However, for that development to be successful it is equally crucial that the value chain be socially and environmentally sustainable. Any negative environmental and social consequences in the producer countries can be avoided in practice if national governments take appropriate steps and business stakeholders assume responsibility for the effects of their actions and comply with their obligations to exercise due diligence.

But the industrialised countries themselves must also be aware of their responsibility and take precautions accordingly. A European regulation is currently being discussed which includes the requirement for European businesses to exercise due diligence with regard to certain metals and minerals. The idea behind it is to avoid these metals and minerals being used to finance armed conflict.

1.5.4 Individualisation

The trend towards individualisation, which is increasingly becoming a global phenomenon, also has advantages and disadvantages for sustainable consumption. For example, individualisation produces, on the one hand, more individual living space and increasingly large living units. This increases the resource use per household, because the space needed, energy demand, and number of household articles needed per capita rises.

On the other hand, by integrating consumers into innovation processes ("prosuming") new products can be better adapted to individual needs. This is expected to lengthen the lifetime of products and make them more efficient to use. However, these processes are in their infancy; research is needed, in particular on their sustainability potential.

1.5.5 Demographic change

The future effect of the foreseeable growth in the world population in the next few decades and the global expansion of consuming middle classes that will accompany it is difficult to describe in the light of the existing consumption patterns in industrialised countries. Since their prosperity and consumption behaviour will continue to be a role model in the future, it is particularly important that the industrialised countries establish sustainable consumption patterns. All countries, including Germany, therefore have a responsibility to meet Goal 12 of the 2030 Agenda, which addresses the need to ensure sustainable production and consumption patterns.

As individual life expectancy increases, the percentage of older people in the population increases correspondingly, as does the time frame during which they consume. Not enough research has yet been done on the specific effects of demographic change on sustainable consumption. Immigrants have similarly scarcely been taken into account as a target group in the process of environmental communication; at best, there are instances of this gradually beginning to happen.

2 The sustainability principle and consumption behaviour

2.1 Significance of the sustainability principle for consumption patterns

The principle of sustainable development which is enshrined in the National Sustainable Development Strategy means that the conservation and protection of the Earth's life support system, that is its carrying capacity its ecosystems, is the absolute framework within which the policy goals must be achieved. Environmental protection, economic performance and social responsibility must be brought together in a way that facilitates decisions that are sustainable in all three respects, seen from a local, regional and global perspective. This is the best way that Germany can fulfil its global responsibility for future as well as current generations. This is the basis on which the limits of resource use and therefore consumption must be defined. It does not mean pursuing a policy of imposing bans on particular types of consumption. Nevertheless, society needs to start a debate about these limits and the environmental and social impacts of consumption must be identified more clearly than in the past and awareness about them generated.

This programme's overarching goal is to ensure that consumption makes a contribution to achieving sustainability targets such as those that were set by the German government in its National Sustainable Development Strategy.

The programme fleshes out the National Sustainable Development Strategy with more specific details for key areas of consumption and instruments. These details are based on the following key ideas.

2.2 Key ideas underpinning a sustainable consumption policy

Sustainable consumption must be fleshed out with specific details concerning the available instruments and in the various fields of need such as mobility, food, the home, work, clothing and tourism. They must follow the principle of sustainable development. At the same time, the key ideas address the obstacles described above (Chapter 1.2) and take account of the megatrends explored in chapter 1.4. They provide guidance in selecting appropriate approaches and measures in the fields of need mentioned above.

2.2.1 Making sustainable consumption a feasible option for consumers

This key idea consists of two elements. Firstly, sustainable consumption is only possible if consumers' ability to make decisions and take action is increased by provision of information and education. Transparent, credible and easily understandable information is the basis on which people need to reflect to change their daily shopping and user behaviour. It involves consumers having a knowledge base that enables them to choose from the numerous possible actions, particularly those that are important in achieving sustainable consumption. This knowledge base requires further scientific evidence about consumer behaviour. One question that needs to be researched, for example, is what kind of information and education is relevant to people's ability to acquire the necessary knowledge to make more sustainable consumption choices.

Secondly, making sustainable consumption a feasible option also involves ensuring that the decision-making process does not become too complex (buzzword: information overload). This can be achieved using incentive systems or content-based limitation of choice, such as minimum standards for certain products, which are already used in the Ecodesign Directive.

2.2.2 Taking sustainable consumption out of the niche into the mainstream

To leverage its environmental, economic and social potential, it is vital that sustainable consumption does not remain a niche idea but establishes a foothold in national and international markets. To promote innovations and create an enabling environment for them to flourish, innovation policy, public procurement, and also elimination of obstacles – legal obstacles, for example – are particularly important.

Policymaking can play different roles here: it can create protected spaces and promote new initiatives, it can set a direction of travel and dictate principles, and facilitate a process to implement them. But it can also create an enabling environment that provides incentives or promotes the use of particular technology or specific behaviour.

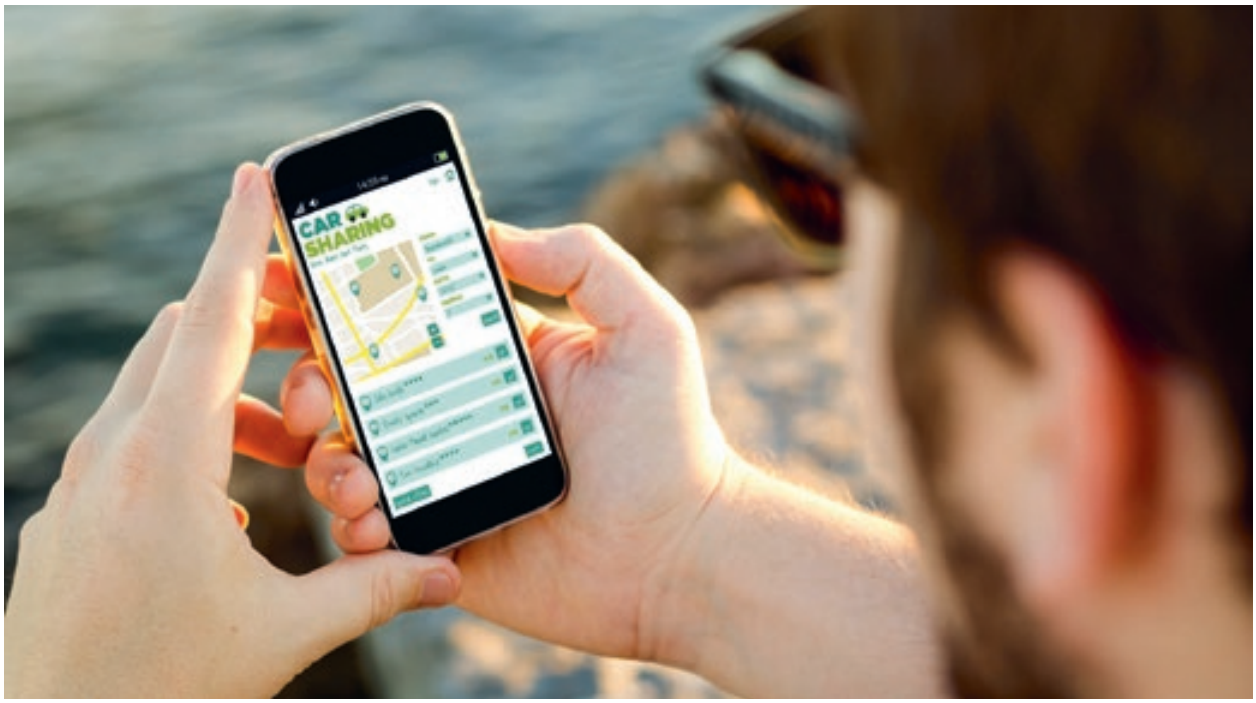
2.2.3 Ensuring all sections of the population participate in sustainable consumption

Everyone, regardless of their income or personal circumstances, should be able to participate in sustainable consumption. There is often a concern that sustainable consumption goes hand in hand with higher costs, which place a greater strain on people on lower incomes. Sustainable consumption must not exclude anyone; on the contrary, it should systematically help to avoid that. Seen over a longer time period, energy-efficient, resource-efficient and long-lasting products should bring about financial savings for people on lower incomes too. Environmental protection measures and environmentally friendly products are also useful in protecting health. In that sense, measures to promote sustainable consumption should not only be examined to ensure that that they do not produce negative social effects but should also actively promote social justice.

Furthermore, numerous different lifestyles can now be found in modern societies. They vary according to personal values, the natural living environment, social situation and the individual's stage of life and are connected to their degree of environmental awareness and everyday routines. It is important to continue to facilitate the numerous different ways of life people choose to live and at the same time harness the potential for sustainable consumption by tailoring the approaches to specific target groups. This key idea is of particular importance when socio-economic trends or environmental measures are seen to have particular distribution effects in individual areas of consumption. This can be the case for example when meeting energy or mobility needs or in strategies that address specific social groups.

2.2.4 Looking at products and services from a lifecycle perspective

A sustainable consumption policy looks at the entire lifecycle of products and associated services. It harnesses their potential to reduce environmental impacts and takes into account environmental, social and economic concerns ranging from raw material extraction, manufacture, trade, use and consumption, through to disposal and recycling. A lifecycle focus is reflected, for example, in attempts to internalise external effects,



develop criteria for ecolabels or promote product design that facilitates recycling and also provides a basis for establishing the principle of economic efficiency in (public) procurement of products and services. A lifecycle philosophy is also intended to prevent situations where, for example, reducing environmental impacts in one phase of the lifecycle simply causes the same or a more serious impact in other phases ("rebound effects").

2.2.5 Shifting the focus from products to systems and from consumers to users

From a systemic point of view, interactions between the supply and demand side are of central importance. As market actors, businesses actively shape production and consumption patterns and exert an influence on social and political processes. The role of individual members of the public is equally diverse: as users and consumers of products and services they exert an influence, finance projects (for example through crowdfunding) and engage in civic initiatives, but they are also to an increasing extent becoming producers (for example of renewable energy). Here the spheres of producing and consuming merge, giving rise to cooperative innovation processes between businesses and consumers.

Consumers are increasingly not interested in actually owning individual products but in the benefits those products provide. For example, they want to be mobile and get from A to B efficiently but that does not mean they have to own their own car. This systemic view of consumption opens up new scope for innovation beyond individual products and technologies, including scope for optimising entire consumption systems to make them sustainable. Understanding consumption as a system, that is viewing individual consumption behaviour as part of a complex socio-technical structure of supply and demand-driven components, opens up new opportunities for needs satisfaction, responsible resource management and social participation in many fields of action. The potential of sharing products (such as cars, for example) – and to some extent leasing or contracting – instead of purchasing products and the markets associated with this has only just begun to be tapped.

Seen from the ultimate goal of achieving sustainability, the path to sustainable development in consumption is one that moves away from the concept of consumers to one of users. Because in a sustainable world the resources available to make products will only be used to the extent they can regenerate or be recycled. The basic idea is "use but don't use up."

3 Cross-cutting approaches within a sustainable consumption policy

3.1 A debate within society

The cross-cutting approaches include instruments to systematically strengthen and expand sustainable consumption in the areas explored below. One of the aims of achieving coherent interaction between the cross-cutting and specific approaches described is to stimulate reflection and discussion of lifestyles and other opportunities for making changes towards sustainability. The programme intends to provide a platform for this. The discussion can build on the dialogue processes on sustainable consumption already instigated by the German government and develop them further to explore future strategies for action. For example, in a dialogue between researchers and representatives of civil society, principles were developed for how sustainable consumption might be taken forward through a process of collaboration between consumers and policymakers (so-called "consumption messages").

The programme aims to stimulate a discussion about lifestyles and at the same time identify options for more sustainable courses of action. One of the aims of this is to upgrade the status of sustainable products and services to the point where they are completely taken for granted.

SPECIFIC ACTIONS INCLUDE

- Setting up a forum entitled Sustainable Consumption through Civic Action – Strengthening the Diverse Ways Sustainability is Practised in Germany (Nachhaltiger Konsum durch bürgerschaftliches Engagement – Vielfalt gelebter Nachhaltigkeit in Deutschland stärken).
- Setting up a federal culture programme entitled Changing Worlds of Consumption (Konsumwelten im Wandel).
- Strengthening collaboration with social sector organisations to develop social paradigms such as Living in a Sustainable Society (Leben in einer zukunftsfähigen Gesellschaft) and setting up action platforms for specific target groups (for example young people, families, low-income households, immigrants) to ensure broad-based implementation.
- Increased cooperation with social groups, such as the media and retail sector, for example (including organising theme weeks on sustainable lifestyles on public service television).
- Increased involvement of consumers through public dialogues in the regions.

3.2 Education

Knowledge about the environmental, economic and social impact of consumer behaviour is a key foundation for sustainable consumption. That kind of knowledge must be disseminated as soon as possible, but more than that it must be repeatedly communicated. But it is not just about communicating knowledge because knowledge alone is usually not enough to drive forward sustainable development. Training in the skills needed for sustainable consumption is part of Education for Sustainable Development (ESD) and reflects an ongoing social remit based, among other things, on the sustainability goals of the 2030 Agenda, the international resolutions on the UN Decade of Education for Sustainable Development, and the Global Action Programme that followed from it. For example, Target 4.7 of the sustainability goals lists education for sustainable lifestyles as an instrument for implementing the 2030 Agenda.

The concept underpinning ESD is therefore designed to ensure that all learners acquire the skills needed to put their knowledge about sustainable development into practice. These skills can be summarised under the heading of Gestaltungskompetenz or creative competence [which is defined as " ... the ability to engage in a thoughtful manner with sustainable development processes, personally and in cooperation with others, and to systematically analyse and assess unsustainable development processes]. It includes skills such as:

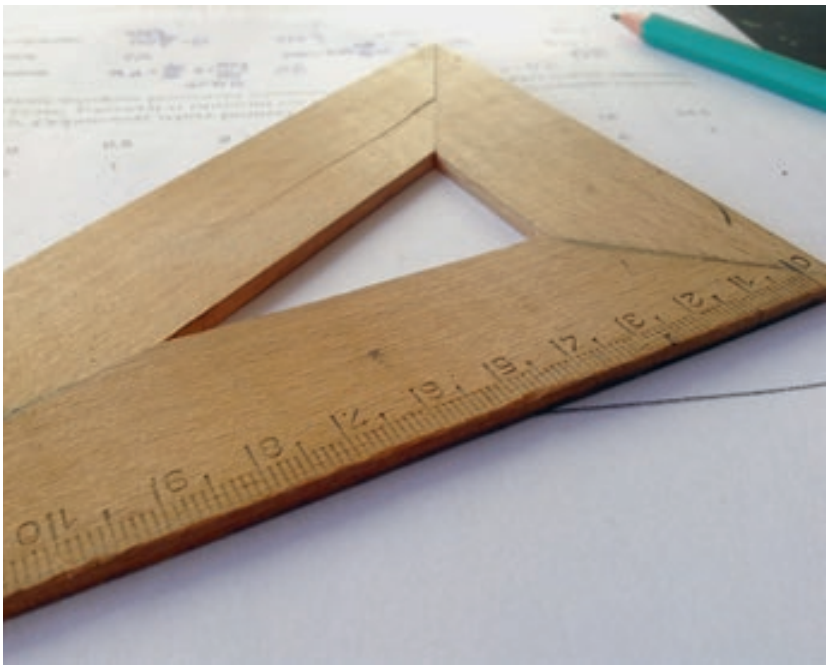
- forward-looking thinking,
- interdisciplinary knowledge,
- the ability to act independently, and
- active participation in society's decision-making processes.

Potential measures aim primarily at achieving this creative competence. They must therefore be broad-based and range from early childhood education and general schooling through to further education.

Key elements include encouraging people to think about their own needs and also about consumption alternatives, the sustainability quality of goods and the environmental/social impacts of using and disposing of them are key elements. Consumer education thus builds bridges to other approaches such as ecodesign or consumer information.

Educational institutions are public institutions and as such provide a setting for everyday action. They are called upon to redesign their own practices, procedures and routines in such a way as to use natural resources carefully and to make their institution's consumption part of the learning process. The whole-institution approach, which is one of five fields of action within the Global Action Programme (GAP) on ESD adopted by the United Nations (2015 until 2019), offers specific ways of doing this and is an opportunity for combining learning in school and beyond school on consumption, a topic which touches everyone's daily lives.

The national platform set up as part of the GAP, which includes representatives of the German government, the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder, and the Conference of Federal and Länder Environment Ministers, plus decisionmakers from civil society, business and the academic and scientific community, has the remit of adopting a national action plan to implement GAP in Germany. Access to ESD through sustainable consumption will play a key role in other bodies within the National Platform, the technical forums and above all partner networks.



SPECIFIC ACTIONS INCLUDE

- Setting up a national platform on education for sustainable development, which coordinates implementation of the Global Action Programme on ESD. Sustainable consumption will be one of the topics addressed by the platform.
- Further developing cooperation with governmental and nongovernmental actors in the UN ESD Decade as a contribution towards further developing and implementing the ESD Global Action Programme at national level.
- Implementing and expanding the orientation framework for the global development learning area within ESD, which was adopted by the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in a collaborative effort between the federal and state governments. The orientation framework is intended to structurally mainstream educational approaches for sustainable consumption and lifestyles in school education. The orientation framework creates a basis within the curriculum that can be used to develop syllabuses at state level or individual school level, for teacher training and school development.
- Increasing the provision of clear information on cause and effect relationships in consumption behaviour – including on a global scale – using indicators and targets (for example Carbon Dioxide (CO_2) emissions and water consumption involved in the production of a cotton shirt or a litre of milk et cetera.).
- Expanding the provision of training and development opportunities on consumption-related topics for teachers and people who can act as multipliers in all areas of education.
- Including learning content in regulations on vocational training and development, especially on efficient use of energy and materials and waste prevention.
- Promoting projects that permit new ways of approaching sustainable consumption that go beyond simply defining what is non-sustainable consumption.
- Ensuring financing for existing schemes, such as the federation of German consumer organisations' (vzbv) Materialkompass, which is a school portal for consumer education that assesses teaching resources on sustainable consumption (www.verbraucherbildung.de/).
- Strengthening the vocational education for sustainable development programme within the European Social Fund, which focuses on the sustainability potential that can be harnessed within specific professions and within production processes and thus contributes to education on sustainable consumption.
- Promoting pilot projects exploring classrooms as real-life experiments to encourage people to practice sustainable consumption in Germany.
- Linking up education and research for sustainable development, especially in higher education institutions (including promoting young scientists), local networks (including urban research and local education networks) and continuing professional development, as it is already included in the new Research for Sustainable Development framework programme (FONA3).

3.3 Consumer information

Any attempt to expand knowledge about sustainable consumption and improve consumer competence must be geared to everyday consumption situations and take the needs of different social groups into account. The information should be practical and help the public understand what defines sustainable consumption. This can be achieved by making greater use of CO_2 and resource calculation tools. In this way, sustainable consumption can become a living reality. Ways to achieve this include meta information systems on sustainable consumption, such as the Federal Environment Agency's consumer website or establishing a system to critically observe and monitor the market and assess environmental advertising claims. The programme should also help to promote a discussion about changing consumption attitudes.

SPECIFIC ACTIONS INCLUDE

- Expanding the provision of information such as the Federal Environment Agency's consumer website entitled Green Living (Umweltbewusst leben).
- Making information on sustainable consumption more practically useful, for example by more communication and advertising for use of personalised tools, such as CO_2 and resource calculators.
- Developing a cross-ministerial funding concept entitled Sustainable consumption as a way to achieve better quality of life – skills need to lead a good, sustainable life in Germany.
- Activities tailored to specific target groups on the topic of sustainable consumption and biodiversity as part of the United Nations Decade on Biodiversity 2011 until 2020.
- Organising exhibitions and events on different areas of sustainable consumption in conjunction with the German Environment Foundation (Deutsche Bundesstiftung Umwelt, DBU).

3.4 Environmental and social labels

To enable consumers to make informed decisions and create incentives for manufacturers to develop sustainable products and services, environmental and social labelling schemes will be further strengthened. Here credible ecolabels such as the Blue Angel and the EU energy labelling play an important role in providing guidance on sustainable consumption. Care must be taken to ensure that communication is geared to the particular target group in question and is adapted to the needs of new distribution forms such as electronic commerce.

Surveys indicate that many consumers would like to buy more environmentally friendly, sustainable products. However, a far smaller number translate this conviction into actual purchasing decisions. The reasons for this are many and diverse (see above).

The German government's aim is to make it easier to distinguish between credible and ambitious "labels" such as the statutory EU Energy Labelling, the voluntary ecolabel Blue Angel, fuel efficiency labelling for passenger cars and independently verified certification for timber and timber products from legal and sustainable forestry, such as Forest Stewardship Council (FSC) and Program for the Endorsement of Forest Certification Schemes (PEFC), and less reputable and trustworthy labels. It also aims to refine the credible product labels, publicise them more and extend them to other product groups. The criteria for national labels systems should be aligned as far as possible with those of international label systems for certain product groups. The benefits by international statutory standards such as those relating to, for example, sustainable forestry in Germany should be highlighted. It should also be easier for consumers to understand the environmental and social impacts of a product. The idea of a "second price tag" as a way of achieving this should be explored (see 3.7)

SPECIFIC ACTIONS INCLUDE

- Strengthening and expanding the Siegelklarheit project to other product groups, sectors and the public procurement target group using existing portals such as the Sustainability Compass.
- Extending credible labels such as the Blue Angel to other product groups, especially convenience goods.
- Further developing the Blue Angel by including additional criteria that make it possible to make a more integrated evaluation of the complete manufacturing process of a product
- Supporting trusted labels through public outreach and campaigns.
- Developing criteria and indicators for the impact of products on biodiversity and ensuring greater inclusion in the Blue Angel ecolabel.
- Developing criteria and indicators for social standards relating to the impact of products on the social situation in producer countries and giving them greater weight in trustmarks.
- Strengthening and expanding systems for communicating product information in the supply chain.
- Exploring the idea of a "second price tag," which would depict the social and environmental impact of a product.
- Harmonising the criteria for international labelling systems for relevant product groups.
- Expanding the environmental declarations of building products on the basis of life cycle assessment indicators.
- Further developing energy labelling to include better consumer information, new areas of application and strengthening market monitoring.
- Developing guidelines for quality standards for sustainability-related product information in the international context and also in e-commerce.
- Developing a legal framework for consumer-oriented use of the Eco-Management and Audit Scheme (EMAS) logo.
- Developing benchmarks and indicators in areas not yet addressed (for example for biodiversity).

3.5 Ecodesign

Observing lifecycle-based principles and practices in environmentally friendly product design also contributes to sustainable consumption. Better design can extend the life of products and make upgrading or repair easier. At the same time, product-specific consumer information is essential to enable consumers to be able to easily understand the possibilities for using particular products and their environmental impacts. This can be promoted using a mix of different policy instruments and incentive systems.

One key statutory instrument of the European single market policy is the EU Ecodesign Directive, which sets criteria for market access for energy consumption-related products. It makes it possible to address not only energy efficiency aspects but also other environmental impacts, provided they can be measured and verified by market monitoring authorities and assuming there is potential for improvement. The German government is advocating for ambitious ecodesign requirements to be introduced for product groups. At the same time, care must be taken here to ensure that these requirements are technology-neutral, make sense in environmental terms, and are economically reasonable.

Research projects are exploring what contribution research and development policy and product safety and warranty law can make to the implementation of environmental design principles.

Furthermore, non-regulatory efforts, such as the German Ecodesign Award or greater integration of ecodesign into university courses, create additional incentives to design products and services that focus on sustainability.

Generally speaking, consumers and producers need to be made more aware of considerations such as service life (life span), ease of repair and recyclability in product design. Statutory regulations on this can only be considered in cases where this seems to be technically feasible, economically justifiable and reasonable. Possible conflicts of aims and the specific technical characteristics of the products in question also need to be taken into account.

SPECIFIC ACTIONS INCLUDE

- The German government pressing at European level for the Ecodesign Directive and energy labelling legislation to impose more ambitious and dynamic requirements on energy-using products wherever possible and reasonable (mainstreaming the top-runner principle).
- Strengthening market monitoring to check compliance with ecodesign requirements and energy labelling.
- Reviewing research projects addressing environmentally friendly product design.
- Expanding and supporting the German Ecodesign Award.
- Paying greater attention to considerations such as service life, ease of repair and recyclability in product design, provided it is technically feasible, economically justifiable and reasonable, for example through voluntary agreements or incentive systems.
- Strengthening consumer information, such as user-friendly instruction manuals or repair information at national level

3.6 Sustainable public procurement

Its huge economic potential gives sustainable public procurement major leverage to promote sustainable products and services. Furthermore, with an appropriate procurement policy the public sector can lead by example and contribute to the credibility of a sustainable consumption policy. It will be possible to take environmental and social standards in the production and supply chain into consideration, provided the supply chain for the goods or services ordered is traceable. Sustainable procurement offers a further opportunity for the public sector to demonstrate good practice within the context of the applicable legal stipulations, especially the principles of economic efficiency and thrift. The crucial thing is to ensure that the main purpose of public procurement – satisfying the economic needs of the public sector – is not compromised. An example worthy of mention here is the German government's directive on the procurement of timber products. This directive requires that when procuring timber products, the wood must be verifiably sourced from legal and sustainable forestry.

An important field of action for the continued enforcement of this principle is the implementation of the environmental and social regulations in the three new EU procurement directives in any national procurement legislation that comes under the scope of these directives. One of the aims is to simplify the procurement of goods and services using quality labels (that is environmental and social labels such as the Blue Angel, European ecolabels and Fairtrade labels).

SPECIFIC ACTIONS INCLUDE

- Working towards 1:1 implementation of the three new EU procurement directives and the opportunities they contain to anchor sustainable procurement in national procurement law, provided it comes under the scope of these directives.
- Prompt updating of corresponding sustainable procurement tools on completion of the reform of national procurement law and their publication (for example on the Federal Environment Agency's procurement website www.beschaffung-info.de and other similar online portals such as the Sustainability Compass).
- Developing new tools for socially responsible and equitable public procurement.

With a view to achieving sustainable procurement, efforts should be made to generate greater awareness among public sector employees (staff in public agencies, procurement staff, and political decisionmakers). This could be achieved by better integrating well-founded, practice-oriented knowledge on sustainable public procurement – observing the principle of economic efficiency – into vocational education (for example training and professional development courses at higher education institutions offering courses in public administration and other relevant educational and training institutions for public purchasers).

The Competence Centre for Sustainable Procurement at the Procurement Office of the Federal Ministry of the Interior, for example, has succeeded in having sustainable procurement included in the federal college's curriculum as an example of good practice and has already given lectures there on the subject.

Part of this includes strengthening the Competence Centre for Sustainable Procurement as a key advice and information centre for sustainable procurement. The expertise of other relevant institutions such as UBA and the Federal Office for Agriculture and Food (Bundesanstalt für Landwirtschaft und Ernährung, BLE) should also be used.

SPECIFIC ACTIONS INCLUDE

- Provision of more practical information for procurement offices through training courses, information events run by the Competence Centre for Sustainable Procurement (KNB), the network for fair procurement that was set up by the Service Agency Communities in One World (SKEW), for example, and other institutions.
- Increased development of tools by the Competence Centre for Sustainable Procurement, the Federal Environment Agency, SKEW and other institutions.
- Expansion of the provision of training resources and information material on the procurement websites of the KNB, UBA, SKEW et cetera.
- Expand the Sustainability Compass to include a Local Authority Compass as a service for public procurement staff in local authorities.

The German government is conscious of the role the public sector plays in demonstrating good practice. The goals of its Programme of Sustainability Measures, which it created for its administrative departments as part of the National Sustainable Development Strategy and which includes specific measures relating to public procurement, can also be pursued by the Länder and local authorities. The collaboration of the federal government, Länder and local authorities in the Alliance for Sustainable Procurement, including its working group on social standards, will be continued. Furthermore, the role of public procurement as a driver of innovation, for example in collaboration with the Federal Ministry for Economic Affairs and Energy's Competence Centre for Innovative Procurement (KOINNO) will be strengthened.

Overall, the intention is to further develop and pool the federal government's information and advisory services.

SPECIFIC ACTIONS INCLUDE

- Systematic implementation of the Programme of Sustainability Measures developed and adopted by the State Secretaries' Committee on Sustainable Development.
- Continuing the work in expert groups on specific aspects of sustainable public procurement as part of the Alliance for Sustainable Procurement, with the involvement of the Länder and local authority associations and including new topics such as biodiversity in the work of the expert groups.
- Considering individual measures that ensure that the German government's public procurement and building policies comply with biodiversity conservation standards by 2020 at the latest, provided this is compatible with the principle of economic efficiency.

3.7 Research on sustainable consumption

Research on sustainable consumption has gained considerably in importance in recent years. Research needs to carry out specific projects to develop approaches to achieving sustainable consumption in all the fields of need mentioned in this programme (that is mobility, food, the home, work and office, clothing, leisure and tourism). Research has already come up with a number of successful proposals in the past – on how to reduce energy consumption in homes and public buildings, for example.

Technological solutions – concerning resources and energy efficiency, for example – play a role in achieving sustainable consumption, as do sufficiency strategies and sustainable lifestyles on the level of individual consumer behaviour. The Federal Ministry of Education and Research's FONA3 programme (Research for Sustainable Development) is currently focusing on the topic of sustainable consumption, including in the form of two funding measures – one on the green economy (2014 until 2018) and the other on environmentally sound and socially responsible transformation of the energy system (2013 until 2017); it is building on the research priority entitled Sustainable Consumption – from Knowledge to Action (2008 until 2013). In addition to engineering and science, the humanities and social sciences are also called upon to deliver answers regarding values and convictions, processes of individual and collective change and participation and economic challenges. In this context, the BMBF´s socio-environmental research, with its problem-focused and interdisciplinary and transdisciplinary research approach, plays a key role.

UBA has also carried out numerous pieces of work in this field, but further work is urgently needed. For example, indicators and benchmarks on the impact of consumption are essential. The aim is to give consumers a clear picture of the effects their actions have on the environment and the social situation – including from a global perspective – and present the options to act differently that are available to them. A better understanding of consumer/user behaviour is also necessary to be able to develop specifically targeted instruments and explore new forms of sustainable consumption. From a systemic point of view, an analysis of consumption behaviour is needed to look at processes involving the use, passing on and disposal of consumer goods, appropriate everyday routines, the social significance of consumption behaviour, measures designed to encourage change and the effects of policy instruments. This means research cannot be confined to an analysis of the purchasing process of certain products and/or consumer awareness.

In this context, it is important not only to take the latest research findings on consumer behaviour into account in developing policy measures (for example, with

regard to the question of what volume of information different consumer groups find helpful), but to systematically test and evaluate it. A further aim is to support innovative research (for example integrating consumers into innovation processes, developing new business models, establish out policy frameworks) to motivate producers to supply the products and services needed to make sustainable consumption a realistic option.

SPECIFIC ACTIONS INCLUDE

- Putting research findings on sustainable consumption into practice more quickly and make new research relevant for the policy areas that will implement it. This is already a goal of the Expert Forum on Sustainable Management, which was set up as part of the German government's High-Tech Strategy, one of the priorities of which is research on sustainable consumption.
- Creating the basis for consumer information on the impact of consumption, including its global dimension, based on indicators and benchmarks.
- Research on possible methods for developing a "second price tag", which reflects the social and environmental impact of a product, including where appropriate in monetary terms.
- Sustainability assessments for global value and supply chains.
- Expanding research in the humanities and social sciences on behaviour-oriented solution options and expanding the use of findings of behavioural science in policy measures to strengthen consumer competence.
- Research on the influence of the context of people's lives on their consumption behaviour (the individual as part of a family context, for example, with the corresponding enabling and constraining structures, which in turn are influenced by things such as societal norms, neighbourhood environment et cetera).
- Consumer research: investigating the question of what needs consumers have and how they originate.
- Research on alternative products and services to facilitate sustainable consumption based on consumers' needs.
- Research on the significance of the rebound effect for sustainable consumption and a green economy, that is an analysis of the actual effect of efficiency innovations.
- Research on the significance of sustainable consumption and lifecycles of plastic, especially taking the problem of microplastics into account.
- Research on the role of sustainable consumption as a driver of innovation, including social innovation.
- Promoting the dissemination and diffusion of research findings on sustainable consumption (for example on sufficiency strategies) in society and business and developing policy recommendations on the basis of those findings and – wherever possible – systematically testing the findings (for example using randomised controlled field studies).

3.8 Social innovations

Social innovations for sustainable consumption comprise new organisational forms, services, products and practices, which are able to make consumption habits more sustainable. They can help resolve social problems and injustices in the field of sustainable management, consumption and lifestyles; they work on the level of everyday life. They may be market-driven, but they also reveal potential to impact positively on sustainability outside conventional market structures. Examples include energy cooperatives, urban gardening initiatives, lending and swapping platforms, repair cafes, Do It Yourself (DIY) workshops or car sharing schemes.

Experimentation with new sustainable economic forms and lifestyles broadens the spectrum of options for action and makes it easier to avoid non-sustainable types of behaviour. Social innovations' potential for sustainable consumption must be systematically explored, used and better harnessed.

SPECIFIC ACTIONS INCLUDE

- Further developing the knowledge base underpinning social innovations for sustainable consumption (for example monitoring, assessment of their effectiveness and potential for reducing environmental impacts, socio-economic effects).
- Setting up a round table to explore financing models for social innovations for sustainable consumption in cooperation with funding institutions, foundations and crowdfunding initiatives.
- Setting up a central contact point/competence centre entitled Social innovation in Germany (Soziale Innovationen in Deutschland) at UBA to provide assistance to grass root groups and information on examples of best practice.

3.9 Monitoring sustainable consumption

Information on how widespread sustainable forms of consumption are can be acquired through comprehensive monitoring. The index of market and consumer acceptance for sustainable consumption instigated by UBA is an important step in this direction. In this context, modifying the environmental awareness study and nature awareness study, which are carried out at regular intervals, to include social reporting addressing issues such as sustainable consumption could make a well-founded contribution.

SPECIFIC ACTIONS INCLUDE

- Establishing a consumer acceptance and market index for green products/sustainable consumption.
- Developing a key indicator for sustainable consumption and appropriate monitoring instruments and recognition systems to validate it.
- Further developing empirical studies of environmental awareness in Germany to include consumption patterns.
- Expanding national social reporting to include aspects of sustainable consumption, for example within Association for Consumer Research (GfK) consumer panel or the socio-economic panel.

4 Individual fields of need and the approaches associated with them

4.1 Mobility

The relevance of sustainable mobility for consumers

Private households are a considerable factor in emissions in the transport sector. Transport accounts for slightly more than a quarter of the total CO_2 emissions caused by private consumption. Despite statutory requirements – regarding specific CO_2 emissions from vehicles, for example – it is to be feared that, as a result of increasing numbers of journeys made and distances travelled, absolute greenhouse gas emissions from passenger transport will not decrease in line with the overarching climate targets. Particularly the increase in air traffic may be an obstacle to reducing CO_2 emissions in the transport sector. A cut in CO_2 emissions could be achieved by increasing the currently small market share of more environmentally sound alternatives such as hybrid vehicles or electric vehicles powered by “clean” electricity in the area of private motor transport and by increasing the use of environmentally friendly modes of public transport. Integrated urban, spatial and transport planning can help to reduce transport volumes.

As well as greenhouse gases, air pollutants such as particulate matter and nitrogen oxides emitted by traffic are harmful for both the environment and human health. Traffic noise is also a very important issue. The complex technical and administrative interrelationships, for example in developing and approving quiet components and vehicles, and the high level of investment needed mean that progress in reducing traffic noise is achievable primarily in the medium to long term.

Furthermore, natural landscape areas, which are so important for biodiversity conservation, are dwindling as a result of increasing land take for transport purposes and as a result of the fragmentation caused by the transport network.

Obstacles to sustainable consumption in the field of mobility

Consumers' everyday mobility is predominantly characterised by routine. The choice of mode of transport used each day is also influenced by social norms such as an individual's social status. As long as owning a car – especially high-performance vehicles – continues to be frequently seen as a sign of success and independence, it will be difficult for more environmentally friendly alternative forms of mobility to become established on a wide scale. However, a change is currently being observed in urban social milieus. People there are increasingly using multiple forms of transport. "Smart mobility" is a buzz phrase that refers to intelligent, sustainable mobility solutions that deploy information and communications technology to optimise the use of available modes of transport. Young people in particular are therefore increasingly making pragmatic, situation-based decisions when choosing a mode of transport.

Consumers' knowledge about the indirect effects on transport volume of consumption in other areas (for example as a result of online shopping) is often incomplete. Furthermore, the different perception of the costs of various modes of transport (for example a cheap flight versus a train journey or calculating fuel costs alone for a car journey) has a negative impact on sustainable mobility decisions.

As well as these consumer-related barriers there are also infrastructure-related obstacles to sustainable mobility, especially in rural regions and as a result of the decline in the size of younger age groups. In sparsely populated areas outside the towns and cities, the public transport network is often not very well developed. As a result, it is difficult to meet mobility needs and the necessary accessibility cannot be achieved without a car.

The most efficient technology available and the most environmentally friendly sources of energy should be used to satisfy transport needs. The fossil fuels predominantly used to date are not sustainable. Electricity generated from renewable sources should be used wherever reasonable.

Policies for sustainable mobility

The aim of promoting sustainable consumption in the field of mobility is to make transport of the future environmentally sound, less resource consuming, efficient and safe, taking individual evolving mobility needs into account. We are not seeking to impede transport, but it is vital that mobility in Germany is made more environmentally and resource friendly, quiet and sustainable. We will succeed in doing this if the alternatives convince people not just in terms of price but also with regard to comfort and consumer-friendliness.

Promoting climate-friendly forms of mobility
Intelligent spatial development and abolishing structural and subsidy policies that encourage urban sprawl can reduce transport volumes. Those journeys that are necessary should be shifted wherever possible to more environmentally sound modes of transport. To encourage consumers to choose more sustainable modes of transport, policy efforts should concentrate primarily on improving public transport, upgrading pedestrian and bicycle transport and linking these modes of transport, including car sharing. This is particularly true for district and city centres, whose strength lies in their complex integration into the transport infrastructure and the easy accessibility that goes with that. Here, the integration and optimisation of rail, bus, car, bicycle and pedestrian transport, along with accessible, high-quality design of transport environments make an important contribution to achieving mobility for residents and visitors alike that is appropriate for urban environments.

This includes reliable and adequate financing in line with the German government's goals.

SPECIFIC ACTIONS INCLUDE

- Supporting efforts to make public transport more attractive: increasing user-friendliness by simplifying fare systems, improving information and booking systems, guaranteeing accessibility, increasing comfort and safety, cutting journey times, improving the enabling environment for alternative drive concepts with lower noise and pollutant emissions et cetera.
- Using information portals such as "Pkw-Label" (www.pkw-label.de) to support consumers by providing reliable information about fuel consumption and pollutant emissions connected with transport services and cars. In a similar way to the energy efficiency label for household appliances, the car label uses a colour scale to provide information about how efficient a vehicle is in each weight class. That creates incentives to purchase CO_2-efficient new vehicles.
- Upgrading the local public transport network and improving operating performance: increasing the density of route networks, shorter intervals between services of each transport mode, creation and improvement of options for combining modes of transport, longer operating hours et cetera.
- Stepping up support for bicycle transport (for example through the National Cycle Paths Plan (NRVP), the National Climate Initiative, and other programmes where appropriate).
- Intensifying support for pedestrian transport (for example by developing a pedestrian transport strategy for Germany, introducing traffic calming in town and city centres et cetera.)
- Supporting local authorities in expanding, developing and implementing measures to publicise flexible forms of public transport such as taxi vans, shared taxis or on-demand buses, especially in rural areas.
- Improving the enabling environment for sustainable vehicle hire systems, especially car sharing, bike sharing including cargo bikes (for example by including electric bikes in electric mobility funding, special rights in public areas for car sharing, collaboration between car sharing and local public transport providers et cetera).
- Promoting investment measures in district and town and city centres to create mobility options appropriate to those environments (for example transport environments that are fully or partially accessible, cyclist and pedestrian friendliness) as part of urban design funding.
- Continuing and further developing sustainable mobility funding within the National Climate Initiative: innovative individual projects and local authority guidelines with climate action strategies/management (including funding for selected measures such as switching vehicle fleets to electric mobility), a climate-friendly mobility strategy and investment measures (bicycle transport infrastructure and multimodal mobility stations).
- Information and evaluation of how environmental impact of transport increases with distance on a local but also global level.

Promoting remote and mobile working

Working life and mobility are closely intertwined. Many jobs are no longer tied to a fixed place or time and can be done on a decentralised virtual basis using modern information and communications technology. Homeworking, also known as teleworking or remote working, and mobile working reduce the need to travel, which in turn reduces commuter traffic. Teleworking has been declining slightly since 2008, but it would be possible to expand it again with the support of policy-makers. Policies need to focus on making consumers and businesses more aware of teleworking as an option, with the aim of ensuring that these ways of working that reduce traffic volumes become more widespread in the long term.

SPECIFIC ACTIONS INCLUDE

- Communication activities to raise awareness among employers and consumers about the possibilities of homeworking and mobile working.
- Increasing agreements to introduce tele-working and mobile working in public-sector institutions and provide support for these new flexible forms of working.
- Providing support for businesses and organi-sations in developing strategies for flexible working hours and place of work as part of an employee- oriented Human Resource policy.
- Research on teleworking as a way of reducing environmental impacts

Promoting integrated and interlinked mobility

The majority of passenger journeys are made by car. Rising mobility costs and changing user demands necessitate new ways of organising mobility and call for a change in perspective – replacing separate modes of transport with a comprehensive, intermodal mobility system. This integrated mobility is made possible by mobility chains, which combine and link up different modes of transport, and by the use of modern informa-tion and communications technology. A combination of different modes of transport can be not only more environmentally friendly but also significantly cheaper and more comfortable as well as shorten travel times. A key task for policymakers is therefore to remove barriers between the different mobility providers and instigate collaboration schemes.

SPECIFIC ACTIONS INCLUDE

- Support for combining public transport with car and bike sharing services and ride-sharing.
- Improving the enabling environment for using cross-modal data platforms on an open-data basis: providing information about mobility services, traffic congestions, delays and timetable changes; using innovative digital mobility services to provide integrated transport information and ticket systems.
- Creating new interchanges and interfaces across all transport providers, continuing to support and set up mobility stations as inter-faces of eco-modes of transport.
- Strengthening local authority and corporate mobility management.
- Educating transport users about intermodal forms of mobility.

Reducing the need for everyday travel

To reduce transport volumes it is important to put measures in place that also impact on factors that create traffic. Suburbanisation and separating key functions such as work, shopping and leisure/local recreation or moving them out to the periphery of towns and cities creates spatial structures that are sometimes monofunctional in character and necessitate travel across great distances, which in turn causes higher transport volumes. By contrast, compact mixed-use structures offer better opportunities to shorten distances between work, shopping facilities and leisure facilities.

SPECIFIC ACTIONS INCLUDE

- Ensuring that spatial, regional and urban planning specifications give greater consideration to the goal of reducing transport volumes.
- Creating near-natural green and open spaces for people to play or simply relax; establishing car-free or traffic-calmed areas and neighbourhoods.
- Providing the planning and financial support needed to ensure amenities such as kindergartens, schools, shopping facilities, after-school facilities and leisure amenities are within easy reach of where people live.
- Providing advice to inhabitants and prospective inhabitants on services such as public transport et cetera, providing information and advice on long-term mobility costs.

4.2 Food

The relevance of the food sector for sustainable consumption

In view of the fact that the world population is predicted to rise from today's figure of 7.4 billion people to 10 billion by 2050, the primary sustainability goals for the food sector are to end hunger, achieve food security and better diet, and promote sustainable agriculture. It is important to bear in mind that different diets have different effects in terms of sustainability. Furthermore, health is an important factor that has to be taken into account when considering food and sustainability. Cultural influences on diet and therefore the behaviour of each individual have a significant impact on sustainability. Food can make an important contribution to sustainable consumption overall.

The environmental, economic and social footprint of food consumption depends on factors such as the type, quantity and price of the food purchased, how it was produced and processed, the resources and land used to produce a given amount, the transport, the methods of storage and preparation, and the volume of food waste.

For example, about 13 percent of CO_2 emissions (per capita) associated with food consumption are caused by cultivation, processing and transport of food and by food waste. Other critical aspects are loss of biodiversity and pollution of water bodies, air and soil by agriculture. On the other hand, agriculture to some extent ensures the conservation of biodiversity in cultivated landscapes, and storage of climate gases, especially in grassland.

It is also important to bear in mind that research and innovation, in the field of resource-efficient production, processing, transport, and preparation of food, for example, can make significant contributions to improving sustainability. The effect of trading in agriculture products (food and animal feed) must also be included in sustainable consumption considerations. The challenge is therefore to ensure a varied food supply and food security at the same time as ensuring protection of biodiversity, soil and water bodies.

Different food products have different environmental, economic and social effects. Seasonal products that have been organically and locally produced are the most environmentally and climate friendly option. With regard to storage and preparation, the environmental impact is also influenced by the efficiency of the household appliances used. And finally the volume of food waste produced by private households is considerable (see page 50) and means that the amount of resources used to produce food is markedly higher than it needs to be to cover actual food requirements. Potential for reducing environmental impacts can therefore be found across the entire production and supply chain, including in the consumption phase.

At the same time, food production is Germany's fourth largest industry and an important factor in the economy, especially in rural regions. The most important sectors within the food industry include the meat, dairy, confectionery and baked goods manufacturing and drinks industries. Food prices in Germany have contributed to price stability and therefore helped to improve the economic circumstances of low-income sectors of society for many decades. The price of organic food is often higher than the average price of conventionally produced food. The reason for this is that it has to meet the particularly high production requirements prescribed by the EU Organic Regulation (on organic production of agricultural products). The prices for this type of food therefore reflect the higher expenditure involved in producing it. At the same time, it should be noted that a considerable section of the population has a low income, even in Germany. Food prices have great social significance for this sector of the population.

Food is also a key factor in health. There is a strong link between diet and obesity, cardiovascular disease and certain types of cancer. For example, about a third of all costs in the health system are incurred by illnesses that are influenced – either directly or indirectly – by dietary factors. In Germany, 52 percent of the adult population (62 percent of men and 43 percent of women) were overweight in 2013.

It is striking that many people understand how to have a healthy diet but do not manage to put their knowledge into practice in their everyday lives. It is therefore important to create the conditions that promote a healthy lifestyle. It is also important to enhance people's knowledge, while at the same time creating awareness for the fact that each individual is responsible for their own health.

A sustainable diet means understanding the social dependencies and relationship caused by producing and purchasing food.

Exporting food or agricultural raw materials is one of the main ways developing countries access the foreign currency they need to finance government spending on things such as education, water supply and transport infrastructure. Their participation in world trade enables them to generate prosperity and is one of the key components of their sustainable development. Sustainable agricultural development is necessary to enable these countries to produce adequate levels of income for farmers, alleviate poverty and pay people enough to permit them to have a decent life. It also plays a crucial role in the sustainable use of soils and other resources by future generations. It is vital that these factors and their interrelationships be made transparent for consumers so that they can better integrate them into their purchasing decisions.

Obstacles to more sustainable consumption patterns in the food sector

Current dietary practices are influenced by our habits and daily routines. They are often pressurised (in terms of time) by the complexities of organising daily life resulting from changes in work patterns, family life and lifestyles. Here the question to be explored is what changes we can make so that our food culture becomes healthier and more environmentally sound and socially responsible. It is important to pay special attention to low-income households.

Policies for sustainable consumption in the food sector

A sustainable diet includes the awareness that as well as rational aspects concerning our personal health and the environment, enjoyment of food is also important. Enjoyment and sustainability are not mutually exclusive. On the contrary, sustainability can increase enjoyment as a result of the awareness of having made healthier choices, acted with a sense of environmental and social responsibility, and promoted fair trade.

A policy that supports sustainable consumption in the food sector therefore aims to achieve a healthy diet that fits in with everyday life, respects animal welfare, and does not harm the environment and that is affordable and feasible for all consumers to put into practice as simply as possible. It is crucial that the entire production and use chain be taken into consideration.

Promoting a sustainable diet as being important for good health

With INFORM – the German national initiative to promote healthy diets and physical activity – the German government is encouraging people to eat in a way that is both healthy and sustainable. To this end, the German Nutrition Society (Deutsche Gesellschaft für Ernährung, DGE) has developed general rules and quality standards for public sector catering. The idea is to incorporate sustainability factors into the federal government's guidelines for food served in public sector canteens in line with its Programme of Sustainability Measures. One of DGE's basic recommendations is to eat a balanced diet. Anyone replacing simple carbohydrates, fat and saturated fatty acids with more complex carbohydrates, fibre and secondary plant substances can reduce their risk of developing a number of diet-related diseases. As a rule, plant-based food products have a better ratio between essential nutrients and dietary energy.

SPECIFIC ACTIONS INCLUDE

- Integrated centres for school and kindergarten meals to improve the quality and provide a balanced diet.
- Disseminating information resources developed as part of INFORM for teaching purposes in schools and nurseries (for example the "food driving licence" developed by aid, an information and food advice charity, to teach children about good diet from an early age)

Establishing sustainable food as an environmental concept

Establishing sustainable food as an environmental concept involves considering the entire food chain from primary production through to final consumption. Key elements that can be adjusted here are the amount of pesticides used and the appropriate use of fertilisers, creating ecological focus areas, hedges and buffer zones on agricultural land, diversification of crops, preventing food losses, and ensuring animal production is geared towards sustainability, which includes switching to livestock farming practices that include high animal welfare standards.

Other examples of how the idea of sustainability can be promoted in agriculture include interventions and projects under the Federal Organic Farming Scheme and other forms of sustainable agriculture (BÖLN), and the protein crops strategy (EPS). Their direct or indirect goal is to help develop sustainable consumption. The aim of BÖLN is to contribute to sustainable growth based on a balanced expansion of supply and demand for organic and other sustainably produced food products. The measures and projects address the actual information requirements of the different stages along the value chain: agricultural production, acquisition and processing, trade, outside catering, marketing and consumers.

The choice of food products also plays a major role. For example, plant-based food usually causes far fewer environmental problems (for example greenhouse gases, soil pollution, water consumption, groundwater problems) than foods of animal origin. Food production methods can also be modified to conserve energy and water.

Credible labelling schemes certifying that food has been sustainably produced can help consumers to make sustainable consumption choices.

SPECIFIC ACTIONS INCLUDE

- Promoting sustainability initiatives such as the German Initiative on Sustainable Cocoa (2016 flagship project under the National Sustainable Development Strategy) and the Forum for Sustainable Palm Oil (FONAP).
- Supporting the Federal Ministry of Food and Agriculture's animal welfare initiative.
- Further support for projects to promote food based on sustainability principles across the entire value chain.
- Sustainable food is one of the priority areas of the High-Tech Strategy's Expert Forum on Sustainable Management. The aim is to set up a research agenda, on the basis of which priority research projects will be developed.
- Further development of research and measures on low-emission livestock farming.
- Support for sustainability and quality initiatives in developing countries that export food or agricultural raw materials.
- Research projects to promote resource efficiency as part of the BMEL innovation programme.

Reducing food waste

A key element in sustainable food is appreciating food and reducing avoidable waste. Edible food is often thrown away both by private households and during production. For example, a study carried out by Stuttgart University indicated that 6.7 million tonnes of food waste are produced each year in German households. Almost half of that is classed as avoidable. Fruit and vegetables account for the largest share, followed by baked goods and leftover food. Overall, the avoidable food waste in private households in Germany corresponds in monetary terms to 19.1 billion euros per year, which equates to about 235 euros per capita per year. Avoidable food losses are not compatible with the principle of sustainability, because natural resources are used to produce them, which are therefore not available for other purposes. The impact on the environment, from pollutant emissions through to use of agricultural land, are huge and incur costs for the whole of society. Sustainability thus calls for avoiding food waste as far as possible.

Various government departments already have a number of different initiatives and projects in place which are looking at the problem of food waste and they could potentially be further developed. BMEL, for example, has an initiative entitled "Too good to bin" (Zu gut für die Tonne!) which, on the one hand, aims to draw attention to the problem of food being wasted and, on the other, to help reduce the amount of food that is destroyed. "Restlos genießen" which translates as "Enjoy completely" is a campaign which is being run under this initiative in collaboration with Greentable, a website providing information about sustainable restaurants. It is seeking to encourage restaurants to proactively offer their customers the opportunity to have their leftovers packed up to take home. A project named COSUS (COnsumers in a SUStainable food supply chain) is investigating how consumer acceptance of food that has purely visual defects can be increased in order to reduce the proportion of food that is thrown away.

The BMBF project entitled Wege zur Reduzierung von Lebensmittelabfällen – Pathways to reduce food waste (REFOWAS) is seeking to identify the origins of food waste by analysing the agriculture and food sector across its value chains and to identify and trial strategies and starting points for interventions to reduce waste. Finally, a research project commissioned by BMUB to develop instruments to avoid food waste is describing and quantifying the environmental impacts associated with it. BMZ supports the Save Food Initiative, which was launched in 2011 by the Food and Agriculture Organisation of the United Nations (FAO) and Messe Düsseldorf. It also aims to curb food losses and waste.

SPECIFIC ACTIONS INCLUDE

- Further developing measures and campaigns to reduce food losses and wastage (for example by introducing fully customisable meals in public sector catering).
- Reducing food losses at public sector events.
- Even greater incorporation of the remaining stakeholders across the value chain.
- Research on consumers' understanding of best-before and use-by dates and their influence on food being thrown away and on consumer information that is appropriate for the target group about the meaning of these dates.
- Increased use of low or zero packaging goods (loose goods).

Promoting local and regional food

Supplying food to the population is transport-intensive. Although the amount of food consumed per person has hardly changed in recent years, the volume of transport, that is the total amount of food transported, has doubled in the last 20 years. Air transport has a particularly high impact on the environment: products imported by air from overseas generate 170 times more emissions per kilogram than those transported by sea. Thus, given this kind of knowledge about the effects of their purchasing behaviour, consumers have a significant opportunity to influence the environmental impact caused by transporting the food they buy. However, for reasons to do with the climate, certain food only grows or can only be sustainably produced in other parts of the world. It enhances the variety of food we can choose from and generates income opportunities for producers in those countries. When buying imported food it is important to opt for those products that have been transported sustainably (for example reduce the amount of food imports by air).

It is also important to focus more on local and seasonal products. Every fruit and vegetable is seasonal. Fruit and vegetables that grow in the same region where they are eaten are able to fully ripen because they only have to survive being transported over short distances and do not have to be harvested early before they are fully ripe.

Direct marketing of local food (farms selling their produce directly to consumers, farmers' markets, regular vegetable box subscriptions, delivery services, collaboration with catering businesses and other large-scale consumers) is another way of promoting sustainable consumption in the food sector. This helps to safeguard the livelihoods of small and medium-sized local farmers and to conserve the cultivated landscape. To enable consumers to easily and reliably recognise local products, a privately managed scheme called Regionalfenster (local window) has been active in the market since 2014. It enables consumers to see at a glance where the ingredients in a product come from and where they were processed. More recent developments in farming, such as community supported agriculture or livestock leasing, could have the potential to make farmers less dependent on global food markets and at the same time promote a local, transparent food supply in which consumers are closely involved in the production of agricultural products. The autonomy and diversity of local life and local economies are also supported.

SPECIFIC ACTIONS INCLUDE

- Encouraging caterers in the public sector to provide a well-balanced mixed diet consisting of fresh, mainly local food that has undergone little processing.
- Supporting local products, including through "Einkaufen auf dem Bauernhof", an association to promote farm shops.
- Introducing a practical labelling system using symbols to clearly depict resource consumption (for example water, air and soil), energy used during production and transport (for example CO_2 emissions).
- Considering expanding labelling for resource consumption, transport and social considerations in the supply chain.

4.3 Home

The relevance of consumption at home to sustainable consumption

38 percent of all CO_2 emissions caused by private consumption occur at home. And, despite the increase in more energy-efficient buildings and appliances, the average per capita CO_2 consumption is falling by only 0.5 percent per year. Efficiency gains, resulting from the use of more energy-efficient large household appliances such as dishwashers and microwaves, are increasingly being cancelled out by an increase in the absolute number and size of appliances. Changes in behaviour are therefore extremely important if a reduction in energy demand is to be achieved.

In terms of household furnishings, furniture made of sustainably produced raw materials, such as timber from certified legal, sustainable and (wherever possible) domestic forestry that also has ecolabels, are environmentally sound alternatives that conserve resources. Long-lasting furnishings that can be repaired and do not have to be replaced as often therefore tread lightly on the environment and, in the long term, on the bank account too. However, consumer products with particular sustainability qualities have to date played only a minor role in home furnishing.

Housekeeping and routine maintenance activities also have an impact on the environment. Each year laundry and cleaning activities in private households use 10 billion kilowatt hours of electrical energy.

Obstacles to more sustainable consumption patterns at home

As already described, the environmental impacts caused by the consumption activities and the way of living at home continue to increase. The factors responsible for this include the increase in living space needed as a result of smaller households and rising expectations in terms of furniture, fittings and household appliances due to more individualised lifestyles and growing levels of prosperity. There are often information deficits and a need to advise consumers on possible savings that can be made in the home.

Policies to promote sustainable consumption at home should if possible address consumers directly. Individual user decisions with regard to room temperature, ventilation behaviour, purchase of energy-efficient household appliances and long-lasting furniture, or choosing a green electricity provider make a direct contribution to sustainability. The same applies to decisions about living space, for example shared housing projects as a result of demographic change, which can provide increasingly powerful leverage to facilitate ways of living that are more environmentally sound because they use less space.

Promoting more widespread use of energy-saving, resource-efficient household goods that are better for our health

Enhancing consumer knowledge through information, labelling schemes and advisory services is crucial to increasing the use of energy-saving and resource-efficient household goods. It is crucial to step up efforts in this field and include in particular aspects such as product durability, reusability, ease of repair and recyclability so that consumers are able to choose from a range of alternatives.

SPECIFIC ACTIONS INCLUDE

- Supporting consumers in purchasing energy-efficient appliances (for example by refining the EU Energy Labelling scheme, using a scale that is easier for consumers to understand and takes technological developments into account).
- Developing criteria for awarding the Blue Angel for additional product groups in the home furnishing sector.
- Continuing the energy and electricity savings check-up for private households and providing subsidies for more efficient electrical and heating technology that are contingent on behavioural recommendations being put into practice.
- Providing information on topics such as long-lasting furniture and electrical and electronic appliances and healthier products (for example low-pollutant mattresses).
- Providing information on what impact the value chain of products made of wood and other natural raw materials has on endangered species and habitats and on the impact on the climate and biodiversity of using sustainably produced wood-based products instead of less sustainable raw materials.
- Description of sustainable forestry in Germany, supporting and publicising credible and independently reviewed certification for wood from legal and sustainable forestry, such as FSC and PEFC certification and eco-labels such as the Blue Angel.
- Providing information on replacing old pumps with new models in conjunction with ways of optimising heating systems by ensuring they are hydraulically balanced.
- Providing information and support to encourage longer use of furniture, electrical and electronic appliances et cetera, for example through recycling and upcycling projects in the furniture and home furnishing sector.
- Considering expanding the take-back system for used products to include additional product groups (for example by introducing a bin for recyclables).
- Support for paying greater attention to environmental declarations for building products, on the basis of which environmentally friendly product developments are promoted, which also benefit the environment.
- Expanding the knowledge base on the impact of consumer decisions in the hygiene and cosmetic products sector.

Promoting new forms of living arrangements in the community

Alternative structures enabling people to live together in shared housing (for example multigenerational housing projects) or co-housing projects are increasingly appearing as new forms of living arrangements alongside traditional forms of household and family. There were over 500 projects of this kind in Germany in 2010. Although they are still a relatively small share of the housing stock, they will become more significant as a result of demographic change.

The new forms of communication and cooperation practised in shared living projects present particular challenges for funding policy. Support is primarily part of the remit of local authorities, since they have information about the local housing market and contacts to the local construction industry and social welfare organisations. But the federal and Länder government agencies (housing advisory centres) are also called upon to make government funding and support structures such as information, advice and networking opportunities available.

SPECIFIC ACTIONS INCLUDE

- Setting up a cross-ministry "guide service", which could carry out the following tasks: act as a contact point for housing projects, do outreach work, act as an intermediary to the housing industry and private building and land owners, provide networking, advice and funding assistance.
- Support local authorities awarding building plots to housing projects.

Reducing consumption-related household waste

Consumption of goods produces a corresponding volume of waste once those goods are no longer used. Here the focus is on packaging materials in particular, which are usually made of plastic. Whereas in many countries where consumption is rising the problem of plastic waste entering the environment is becoming increasingly serious, Germany began early on to set up collection and recycling systems to deal with it. Factors such as global population trends, urbanisation, increasing prosperity and the fact that developing countries and emerging economies are catching up with the consumption levels of the industrialised countries will lead to an increase in the production and consumption of plastic worldwide and therefore to a possible increase in the problem of plastic waste entering the environment. Estimates assume that by 2025 the volume of plastic entering the marine environment could increase tenfold from between 4 and 13 million tonnes to between 40 and 130 million tonnes.

The problem of the environment being polluted by plastic debris of all sizes and the danger of plastic particles getting into the human food chain, which has hardly been investigated, is increasingly entering the consciousness of a broader public and becoming the focus of policymakers and the scientific community.

New approaches are needed to prevent that kind of waste from occurring and to safely recycle any that does occur.

SPECIFIC ACTIONS INCLUDE

- Closing gaps in knowledge:
  - Research on plastic cycles, on the causes of plastic entering the environment and possible ways of preventing it;
  - Research on the health impact of microplastics on marine life including fish and shellfish, humans and animals.
- Support in developing disposal systems for countries that to date have not been able to prevent plastics from entering the environment.

Supporting measures to encourage energy-saving heating behaviour

As far as consumption at home is concerned, space heating holds huge potential for reducing environmental impacts. It accounts for 60 percent of CO_2 emissions caused in the home. As well as using construction-related measures to reduce heat losses and using more environmentally and climate-friendly heating systems, it is also imperative that consumers contribute to reducing environmental pollution by changing their behaviour.

It is possible to strengthen consumer competence in order to achieve changes in heating habits through a combination of independent information and advisory services and measures to stimulate demand, for example.

SPECIFIC ACTIONS INCLUDE

- Providing information and funding efficiency measures to optimise heating that require only a low level of investment (for example hydraulic balancing).
- Targeted improvement of conditions for low-income households by providing free advice on economical heating along with free direct installation of energy-saving technology based on an electricity-saving check-up (carried out for example by the Federal Office for Economic Affairs and Export Control (BAFA), and the housing advisory services run by the Länder).
- Supporting measures to create incentives for private households (for example interactive energy-saving accounts, competitions et cetera).
- Information on things such as the health effects of optimum room temperature and adequate ventilation.
- Building climate competence connected with heating and ventilation among children and young people by providing teaching resources and information material, for example.

4.4 Workplace and Office

The relevance of the workplace and office for sustainable consumption

As an area of consumption, the workplace and office includes for example products in the field of ICT, which consumers use both for work and private purposes. The target group of this chapter therefore consists not only of consumers but also businesses and the public sector. From the point of view of impact on the environment, the purchase, use and disposal of ICT appliances are particularly relevant – not least because in terms of consumption, ICT is a mass market comprising a wide range of different products such as desktop Personal Computers (PCs) and notebooks, monitors, mobile phones and increasingly e-book readers and tablets. The demand of private households for ICT appliances, including consumer electronics, is steadily increasing. On the other hand, this area of consumption also includes office supplies, especially paper products.

Electricity consumption for ICT, including consumer electronics, accounted for over 10 percent of total electricity consumption in Germany in 2007. Apart from the direct use of resources in the use phase, the environment is also impacted by the manufacture of appliances and infrastructure. For example, roughly 2,790 kilowatt hours of energy, 20 cubic metres of water and 23 kilograms of chemicals are needed to produce a PC and monitor. Another critical issue is the use of rare metals, such as precious metals and platinum group metals, in the manufacture of ICT appliances, since it often causes social conflicts in the countries where they are mined, loss of biodiversity and environmental impacts resulting from the use of toxic substances and high amounts of water and energy. Every effort should therefore be made to use the appliances for as long as possible and include them in lifecycle management schemes.

Germany's paper consumption has stagnated at a high level for some years now – at over 240 kilograms per capita per year. In some respects, paper has a major impact on the environment as a result of raw material cultivation, fibre production and primary production. Paper's environmental footprint could be significantly improved by increasing recycled paper's share in total paper consumption.

Obstacles to more sustainable consumption patterns in the workplace and office

There are a number of ecolabels such as the Blue Angel, the EU Flower, the Tjänstemännens Centralorganisation (TCO) label and the Energy Star, which help consumers to make an informed decision when purchasing ICT products. However, these labels are either not very widespread or the public are not very familiar with them. Furthermore, for ICT products, other criteria such as functionality and design currently play a more important role in purchasing decisions than sustainability considerations.

The ICT industry still has a long way to go to systematically implement environmental and social standards across its global supply chains. Sustainable ICT products therefore continue to be in short supply. Furthermore, the industry's very short product and innovation cycles, which involve a high throughput of materials, are an additional obstacle to achieving a more sustainable range of products.

In the paper products sector, the most significant obstacles to increasing recycled paper's sales volume are the restricted range available in retail outlets and consumers' unfounded reservations about its quality – its optical characteristics or runnability in printers, for example.

Policies for sustainable consumption in the workplace and office

Given the situation outlined above, efforts to promote sustainable consumption in the workplace and office focus firstly on making sustainable ICT products more widely available and raising consumer awareness for the environmental and social consequences of appliances and the infrastructure associated with them. The main issue here is to achieve more conscious, that is in particular longer, use of ICT appliances. The second concern is to promote sustainability in the workplace and office area of consumption by either using recycled paper or not using paper at all wherever possible (paperless office).

Raising consumer awareness of sustainable ICT and expanding the range of sustainable ICT products
Increasing consumer awareness of the environmental and social consequences of manufacturing, using and disposing of ICT products is a very important factor in establishing sustainable consumption patterns in this area. At the same time, the range of sustainable products must be systematically expanded to offer alternatives that must then be mainstreamed.

SPECIFIC ACTIONS INCLUDE

- Supporting campaigns such as MakeITFair to raise awareness of sustainability aspects of IT appliances.
- Expanding and possibly pooling purchasing tools, such as the EcoTopTen recommended buys or the top appliances database which is part of the German Energy Agency's (dena) Energy Efficiency Campaign.
- Increasing the use of sustainability standards and labels such as the Blue Angel for PCs, laptops and tablets, mobile phone, smart phones and e-book readers.
- Evaluation and award of credible labels in the IT area using the Siegelklarheit.de portal.
- Supporting the market launch of sustainable products for example through public procurement policies.

Working towards extending the life span of ICT products

ICT products often have extremely short innovation cycles. Consumer products in particular are often difficult to repair and can only be upgraded to a limited extent. High-end user appliances of certified quality have to date remained a niche market. Efforts should therefore be made to take a comprehensive lifecycle approach and extend both the life span of ICT products and the actual time they are being used.

SPECIFIC ACTIONS INCLUDE

- Providing consumer education about the environmental impacts of ICT products, their life span and alternatives to purchasing new products, for example using the purchasing tools mentioned above, including in collaboration with the retail trade and other social sector groups.
- Developing and trialling innovative education and communication formats, such as the campaign funded by the Federal Ministry of Education and Research entitled the Raw Materials Expedition – discover what's in your mobile phone, which primarily addresses teenagers and young adults and has developed teaching resources and learning material for use in schools.
- Encouraging greater awareness among manufacturers and consumers concerning the impacts of the service life of ICT products.
- Supporting the development of upgrade and repair services for used ICT appliances, for example through activities to implement the federal government's waste prevention programme, with the participation of the Länder and also as part of the Blue Angel ecolabel.

Promoting sales of recycled paper

The Blue Angel includes particularly high specifications for recycled paper. Recycled paper that meets those specifications makes an especially significant contribution to reducing environmental impact. However, the recycled paper with a Blue Angel label accounts for only a 13-percent share of office paper. In the light of this fact and in view of the significant environmental benefits – especially recycled paper's potential to conserve resources – it is crucial to take additional action to promote sales of recycled paper.

SPECIFIC ACTIONS INCLUDE

- Continuing and expanding campaigns that mobilise and increase awareness among selected target groups. An example of this is the Blue Angel campaign entitled Angel Paper – Now! (Engel-Papier. Jetzt) which is aimed at students.
- Systematically implementing the goal expressed in the German government's programme of sustainability messages regarding the use of recycled paper, combined with expanding the target group.
- Developing and implementing educational campaigns for commercial purchasers, such as print shops and agencies.

4.5 Clothing

The clothing sector's relevance for sustainable consumption

Since large parts of the domestic textile industry have been relocated to other countries, a great deal of the clothing consumed in Germany is now imported. The products – their manufacture, use, recycling and disposal – can have a serious environmental impact resulting, for example, from the use of dangerous chemicals, energy consumption, overuse of water and growing volumes of waste in the textile chain. It is also anticipated that the dynamic development of the fast fashion segment will cause an increase in the volume of clothing consumed.

The fact that it is so internationally competitive means that the clothing industry is highly globalised and its impact on the environment is similarly global. The strong global interconnections make monitoring compliance with environmental regulations and labour law complex and difficult.

The stages in the textile manufacturing process that have particularly serious impacts on the environment are the cultivation and production of the raw fibres and the textile finishing phases.

Large quantities of pesticides and fertilizers are used in the primary production of natural fibres. Also the high consumption of water (for example between 3,600 and 26,900 cubic metres of water per tonne of cotton) and other resources takes a toll on the environment. The production of chemical fibres uses non-renewable resources, on the one hand, as raw materials and, on the other hand, to generate process heat. The high volumes of wastewater produced during textile finishing, some of which is polluted with persistent chemicals, are especially harmful to the environment.

The quantity of textiles consumed per person also impacts on the environment. Each article of clothing that is purchased and discarded a short time later – in the worst case without having been worn – puts an unnecessary strain on the environment.

Social and environmental considerations play a major role in the sustainability of the textile chain. They include concerns about the use of pesticides when growing cotton and the associated health risks, along with the competition for resources and especially the water consumption it involves, and the often precarious working conditions in the textile processing industry. The clothing industry's voluntary codes of conduct and measures such as the Partnership for Sustainable Textiles are the right way forward and it is important to give them continuing support and make them more widely known.

Obstacles to more sustainable consumption patterns in the clothing sector

The sustainability challenges in the textile chain are not yet sufficiently anchored in consumer awareness. People still have little knowledge about the environmental and social impact of the manufacture, use and disposal of clothing and similarly these considerations play hardly any part in their purchasing decisions. Many product labels that are designed to provide consumers with information about the sustainability characteristics of textiles and clothing are already addressing this information deficit. However, the number of labels and different approaches make it more difficult for people to find their way around them. Also the availability of sustainably produced clothing that meets both environmental and social standards is small relative to the overall range. Furthermore, in terms of raw materials, organic cotton's share in the overall cotton market remains below one percent.

The purchase and use of clothing is highly subject to social considerations (lifestyle, individuality), habits and routines, and to ideas of cleanliness.

People sometimes use clothing collections and second-hand options to dispose of clothing, or they discard it with their household waste, although without knowing about further use or disposal paths. People are scarcely aware of the difference between reusing clothing and textile recycling. Whether used textiles can be reused or recycled depends on their quality. If they are in good condition they can be reused as second-hand clothing, whereas clothing that cannot be further marketed can be made into cleaning rags, insulation material, recycled fibres and the like.

Policies for sustainable clothing consumption

Achieving sustainability in clothing consumption in Germany means above all using articles of clothing for longer to reduce the absolute consumption volume and at the same time increasing the market share of sustainably produced textiles in the clothing market. Both these things reduce resource use, waste volumes and social problems in this sector.

Creating awareness around sustainable clothing consumption

In view of the situation described, it is particularly important to create consumer awareness around sustainable clothing consumption and to support the expansion of sustainable alternatives – both in terms of products and consumption behaviour.

SPECIFIC ACTIONS INCLUDE

- Organising campaigns and educational services to provide information on the current non-sustainability of the production and distribution stages of the textile chain in a way that consumers can understand.
- Working to ensure that recommended sustainability labels become better known; supporting their use and increasing their visibility in the market, for example through public procurement measures and the Siegelklarheit.de consumer information portal.
- Expanding the Partnership for Sustainable Textiles' membership base; the target is to recruit 75 percent of the German retail market to join the Partnership.
- Setting up a review process, which will make it possible to measure the progress made by members of the Partnership and communicate the results through a transparent reporting system.
- Recognising existing standards within the Partnership for Sustainable Textiles.
- Putting the Partnership for Sustainable Textiles on an international footing by establishing links with relevant international processes such as the 2015 G7 summit in Elmau, the OECD Advisory Group on Responsible Textile and Garment Supply Chains, and the EU Garment Flagship Initiative.
- Promoting awareness and use of textiles and clothing manufactured on the basis of sustainably produced renewable raw materials, such as viscose made from legal, sustainable and (wherever possible) domestic forestry.
- Increasing the market share of clothing from certified organic cotton by promoting independent standards such as the Global Organic Textile Standard (GOTS) and the Blue Angel.

Promoting innovative infrastructure and business models for maintaining, repurposing and re-using clothing textiles

As well as the question of how sustainably an article of clothing was produced, the way it is used is also a major factor infuencing its environmental footprint. Using clothing for longer saves money and conserves resources. For example, using a garment for nine months longer is estimated to reduce the negative impact on the environment by between a fifth and a third. The care labels used voluntarily by manufacturers already give consumers the information they need about how to treat their clothes to ensure they maintain their quality and functionality for as long as possible.

Initial attempts to develop further innovative concepts around using clothing for longer can already be seen. For example, a Dutch fashion label has a leasing concept for fair-trade jeans and, alongside clothes swapping parties and flea markets for nursery school children, websites and subscription schemes to facilitate clothes swapping have already been established.

SPECIFIC ACTIONS INCLUDE

- Using pilot projects and ecolabels, for example, to support and promote the development of resource-efficient concepts and business models in the clothing textiles business, for example upcycled fashion and alteration shops.
- Continuing BMBF research project entitled “Slow Fashion” (2015 until 2017), which aims to slow down clothing consumption on a voluntary basis and also achieve a reduction in the volume of clothing resulting from extending its use phase.
- Increasing the use of recycled fibres, by public procurement departments, for example.
- Supporting the conditions conducive to a diverse supply structure (including in small and medium-sized businesses and startups).

Reducing the possible risks to health and the environment associated with new types of functional textiles
Often it is only possible to add certain types of functionality to clothing textiles by using chemical substances and materials, some of which give cause for concern. Examples include the use of perfluorinated and polyfluorinated chemicals (PFCs) in waterproof rainwear or formaldehyde resins in non-crease shirts, finishing clothing textiles with triclosan for its antibacterial properties or using nanosilver in odour-free sports clothing. In many cases, there has not been enough research into the risks to human health and the environment associated with the manufacture, use and disposal of those kinds of textiles. Although functional textiles are necessary for certain applications (protective work clothing, for example), many functions are often not necessary for everyday use. Here, providing consumers with information can encourage them to consider other aspects next to price and functionality – such as health as well as social and environmental concerns – when choosing clothing made of functional textiles. In particular, innovations in socially responsible and environmentally friendly manufacturing processes or the use of substitutes for certain chemicals could be stressed. With this in mind, it is important to keep an eye on trends in the textiles sector and investigate scientifically any risks to the environment and health that may be associated with them. Where necessary, the precautionary principle should be followed and appropriate risk management strategies developed.

SPECIFIC ACTIONS INCLUDE

- Supporting ambitious independent standards for products that are harmless to health and resource-efficient throughout the entire manufacturing process and subsequent use phase.
- Increased use of technological innovations that are environmentally friendly and harmless to health, for example PFC-free materials and recycled or plant-based fibres.
- Expanding the scientific investigation of chemical substances and mixtures in textile products and their effects on human health and the environment.
- Providing information for consumers on the various additional aspects of functional textiles (for example impact on the environment and health) and on possible alternatives and/or new environmentally and health-friendly innovations.

4.6 Leisure and Tourism

Relevance of the leisure and tourism sector to sustainable consumption

Some services in the leisure and tourism sector have a significant impact on the use of natural resources. They include leisure activities such as popular sports, outdoor and fun activities, visiting cultural attractions, shopping, business trips and holidays. The latter include recreational holidays, city tours, nature and activity tourism and cycling or hiking holidays. These leisure activities can sometimes be at odds with conserving nature and the environment, despite the fact that they are often dependent on intact ecosystems and landscapes as well as clean air and water.

Worldwide tourism accounts for about five percent of CO_2 emissions. Three quarters of those tourism-related CO_2 emissions come from transport, of which 40 percent are caused by aviation. Thus, the choice of mode of transport is crucial to achieving climate-friendly tourism. Currently, over half of all holidays abroad involve air travel. However, direct sustainability-related impacts can also occur locally. The construction and operation of leisure and tourism infrastructure consumes energy and other natural resources. Furthermore, land take resulting from tourism infrastructure and certain outdoor activities in the natural environment pose a threat to biodiversity, especially in near-natural and ecologically sensitive areas. On the other hand, tourism stimulates local economies and creates numerous multiplier effects – especially in less developed countries – and it often creates a basis for conserving biodiversity.

Obstacles to sustainable consumption in the leisure and tourism sector

Labels such as Viabono, an environmental umbrella brand, or Tourcert certification are an important source of information about sustainable tourism options. However, only three percent of Germans have heard of Viabono and the demand for certified businesses offering accommodation or other tourism products and services is therefore correspondingly low. At the same time, only a small percentage of tourism providers are currently certified under a credible sustainability or environmental labelling scheme although, as well as national labels, there are also numerous recognised international sustainability labels in the tourism sector. There are now over 140 quality labels in the tourism industry worldwide, which adds to the confusion surrounding them. Added to that is the fact that the travel market is extremely price-sensitive and even minimal price differences are often the decisive factor in consumers' booking decisions. Success in the tourism business often depends on quality of service, which is why it is not possible to separate social responsibility and environmental standards from standards relating to the quality of a business.

When organising their leisure activities, consumers often do not have sufficient relevant information to enable them to make more sustainable choices. For example, environmental damage caused by outdoor activities stems to a great degree from lack of knowledge about or sensitivity to nature. Sports clubs and associations are very committed to "visitor management" and education, yet reaching people who are not members of sports clubs or associations, especially those involved in the latest trends in outdoor and leisure activities (for example snowkiting or geocaching) continues to present a huge challenge.

Sustainable tourism and leisure options are still scarcely visible, particularly in the mass market. On the one hand, sustainable travel components, such as a certified hotel, the possibility of taking a train to the airport or offsetting emissions caused by air travel, are not actively advertised. On the other hand, a stringently more sustainable range of travel options depends on many different actors – particularly in the field of holidays but also for business trips. For example, the vast majority of consumers in Germany now reject typical attractions such as dolphinariums or wild animal attractions designed to entertain holidaymakers if they do not comply with welfare standards. Nevertheless, many destinations still view these venues as an important magnet to attract visitors.

There is considerable potential for improvement not only in the holiday segment but also in the area of business travel. Only a handful of companies offset the emissions caused by their employees' travel activities or systematically book hotels with sustainability certification, assuming there are options of that kind at the destination.

Policies for sustainable tourism

The problems and obstacles described above clearly indicate the need to step up existing efforts to reduce the environmental and social impacts caused by holiday and business travel. The key goal must be to ensure that the interest and understanding of the need to make travel and holidays more sustainable that many people have actually translates into action.

Making sustainable tourism transparent

The range of services providing information about sustainability specifications and sustainable tourism options is increasing. As well as commercial services such as Forum Anders Reisen, awards such as the German competition for sustainable tourism regions (Bundeswettbewerb nachhaltige Tourismusregionen) and the Via Deutschland tourism project provide additional platforms to make sustainable holiday opportunities more widely known. As already mentioned, labels and certificates are also important tools for providing consumer information. Supporting policies should aim to communicate existing information tools more clearly and encourage new approaches with a view to increasing the transparency of and demand for sustainable holiday alternatives. Appropriate target groups for support are not just travellers themselves but also intermediaries such as websites and travel agents who often do not have the knowledge and resources needed to provide competent advice.

SPECIFIC ACTIONS INCLUDE

- Greater and more differentiated consideration of and emphasis on sustainability - and especially environmental - criteria when classifying hotels, guest houses, inns and boarding houses (star system). All relevant areas must be included in the evaluation, such as use of natural materials, organic and local products, energy-efficient appliances/vehicles, green electricity, resource-efficient management, accessibility by public transport/local mobility services. The results of the assessment of environmental and resource-related sustainability criteria could be visibly integrated into the star system (for example Green Star).
- Integration of regularly reviewed sustainability information into additional electronic booking websites and evaluation platforms as decision-making tools, taking care to ensure that they remain easy for consumers to understand.
- Greater integration of biodiversity aspects into standards and certification schemes in the tourism sector.
- Analysis of the interactions between customer perceptions and labels/certification for sustainable tourism services and products with the aim of making them more visible and strengthening end consumers' trust in the labels.
- Merging quality and sustainability standards in order to enhance travel businesses' trust in the destinations and consumers' trust in the source markets.
- Analysing economic factors involved in the supply and demand of sustainable holiday and tourism products in terms of the price differences by comparison with traditional products.

Promoting climate-friendly holidays

The most climate-friendly holiday is usually the one that involves the shortest distances. The decisive factor is travel to and from the destination which, depending on the modes of transport chosen, increases the holiday's impact on the climate. The greatest climate damage is caused by the greenhouse gas emissions resulting from air travel. One possibility for consumers to reduce the climate impact of air travel is to use a trustworthy scheme to offset the greenhouse gases. However, only about a third of Germans are familiar with these options and only 7.5 percent state that they have used an offsetting scheme themselves. Furthermore, existing activities to strengthen sustainable tourism within Germany should be expanded. The willingness to take climate-friendly holidays in Germany is high. Here there is a lack of nationwide products such as those offered by Fahrtziel Natur, which offer travel to and from the destination, accommodation and local mobility in a way that is both climate-friendly and customer- friendly.

SPECIFIC ACTIONS INCLUDE

- Supporting measures that improve or increase the use of voluntary carbon offsetting schemes.
- Advising domestic tourism providers on sustainability and its benefits (including economic benefits) by, for example, continuing and further developing the energy-saving campaigns run by the German Association of Hotels and Restaurants (DEHOGA) and sustainable mobility products.
- Using and upgrading environment/sustainability networks to strengthen communication among professionals such as tour organisers, representatives of tourism regions, and the hotel and catering business. This will improve dissemination of sustainability approaches in this sector.
- Improving sustainability know-how in the process chain.

Promoting leisure products and services as sustainability-oriented learning environments

Opportunities for people to reflect on their own consumption behaviour and try out sustainable types of behaviour in their free time should be provided to complement in-school and extracurricular education, based on the idea of experiential learning environments. Well-known examples of education-focused learning environments include museums, zoos, biosphere reserves, national parks and theme parks. For some time now, the concert and festival business has increasingly been trialling formats (such as the Green Music Initiative) that combine responsibility and entertainment. The aim of this approach is make still greater use of leisure events and facilities in the future to communicate information about issues around sustainable consumption.

SPECIFIC ACTIONS INCLUDE

- Adding exemplary experiential learning approaches to the existing advisory and information instruments of political institutions.
- Expanding projects that combine leisure activities and education on sustainable development.

5 Implementing and supporting the programme

5.1 Institutional support for the programme

An interministerial working group has been set up to support and implement the programme, in which all government departments concerned with sustainable consumption are represented. It is headed by BMUB, the Federal Ministry of Justice and Consumer Protection (BMJV) and BMEL.

In addition to the working group, a competence centre is also to be set up at the UBA to support and implement the National Programme on Sustainable Consumption. It will involve all the relevant government departments in supporting implementation of the national programme. It will collect specialist knowledge and communicate it to the public and develop the basis for the programme's further development, creating a combined knowledge base on sustainable consumption. The competence centre will be able to draw upon research findings on sustainable consumption, in particular those collected in FONA3 which is run by BMBF. One of the ideas behind this is that research activities should work closely with business, policymakers and civil society to develop the fundamental knowledge needed for innovation in the field of sustainable consumption.

A national sustainable consumption network will be set up with a view to involving stakeholder groups more closely in implementing the programme; it will be coordinated by the competence centre and will also facilitate communication among all stakeholders. The network will promote a more intensive dialogue, which will be cross-disciplinary and practice-oriented and facilitate cooperation among stakeholders from the scientific and academic community, policymakers, business and civil society. It will also help to disseminate examples of best practice and of cooperation among stakeholders in individual fields of action et cetera. To this end, regular conferences and expert events on selected topics are to be organised. The dialogue on sustainable consumption and biodiversity is also to be continued as part of this network.

The aim of these institutional facilities is to ensure that sustainable consumption is kept at the forefront of awareness as an issue of ongoing concern, ensure an exchange of ideas and information among professionals, promote synergies and create a link to policymaking processes at global level. Furthermore, the interaction of the various instruments ensures that the measures to strengthen sustainable consumption are – depending on how they are evaluated – modified and further developed over time and that, as and when necessary, new measures are identified and reviewed.

5.2 Progress report, monitoring and participation

Regular monitoring and updates are planned to ensure the progress and success of the National Programme on Sustainable Consumption. In line with future international indicators to measure sustainable consumption and production patterns under the 2030 Agenda for Sustainable Development and with further development of the National Sustainable Development Strategy, a set of indicators is to be developed to enable progress to be evaluated transparently. This will be done with the support of a research project and will be discussed in the interministerial working group. A key indicator could then also be integrated into the National Sustainable Development Strategy.

Furthermore, the success of specific policy measures is to be evaluated where possible or academically tested on a smaller scale before being generally introduced – ideally using randomised controlled field studies.

The possibility of using public participation (in the form of public conferences, for example) is being explored. The purpose would be to identify the public's ideas and opinions and establish where they place emphasis in the field of sustainable consumption. The findings could be fed into the progress report.

Abbreviations

10YFP	The 10-year framework of programmes on sustainable consumption and production patterns
BAFA	Federal Office for Economic Affairs and Export Control
BLE	Federal Office for Agriculture and Food
BMAS	Federal Ministry of Labour and Social Affairs
BMBF	Federal Ministry of Education and Research
BMEL	Federal Ministry of Food and Agriculture
BMI	Federal Ministry of the Interior
BMJV	Federal Ministry of Justice and Consumer Protection
BMUB	Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
BMZ	Federal Ministry for Economic Cooperation and Development
BÖLN	Federal Organic Farming Scheme
CO_2	Carbon Dioxide
COSUS	Consumers in a Sustainable food supply chain
CSR	Corporate Social Responsibility
DBU	German Environment Foundation
DEHOGA	German Association of Hotels and Restaurants
dena	German Energy Agency
DGE	German Nutrition Society
DIY	Do It Yourself
EMAS	Eco-Management and Audit Scheme
EPS	Protein Crops Strategy
ESD	Education for Sustainable Development
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FONA3	Research for Sustainable Development framework programme
FONAP	Forum for Sustainable Palm Oil
FSC	Forest Stewardship Council
G7	Group of 7
GAP	Global Action Programme
GfK	Association for Consumer Research
GOTS	Global Organic Textile Standard
ICT	Information Communication Technology
ILO	International Labour Organisation
INFORM	German national initiative to promote healthy diets and physical activity
IT	Information Technology
KNB	Competence Centre for Sustainable Procurement
KOINNO	Competence Centre for Innovative Procurement
NRVP	National Cycle Paths Plan
OECD	Organisation for Economic Co-operation and Development
PCs	Personal Computers
PEF	Product Environmental Footprint
PEFC	Program for the Endorsement of Forest Certification Schemes
PFC	Polyfluorinated Chemical
ProgRess	German Resource Efficiency Programme
REFOWAS	Pathways to reduce food waste
Rio+20	United Nations Conference on Sustainable Development
SKEW	Service Agency Communities in One World
TCO	Tjänstemännens Centralorganisation
UBA	Federal Environment Agency
UN	United Nations
VZBV	Federation of German Consumer Organisations

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