



German Council for
SUSTAINABLE
Development

German Almanac of Sustainability

Initiatives and impressions on the social reality of sustainability

2017



WHAT IS SUSTAINABILITY?

Sus|tain|a'bil|ity

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. [...] In essence, sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations.

BRUNDTLAND COMMISSION 1987





Foreword _____	4
Sigmar Gabriel, Federal Minister for Foreign Affairs	
How we see the world _____	5
An introduction to this Almanac by Marlehn Thieme	
The German Sustainable Development Strategy _____	6
How is Germany implementing the 2030 Agenda?	7
Sustainability as a social process	14
What is the German Council for Sustainable Development and what does it do? _____	19
The first Open SDGclub.Berlin _____	21
Social justice in Germany _____	27
Part of the sustainability agenda	
Changing the way we plan _____	43
New challenges for our cities	
Changing our habits of consumption _____	65
Our decisions for a globally sustainable consumer society	
Changing the economy _____	83
New coordinates for the economic system	
The energy transition _____	101
Future lab Germany – a joint effort	
The Anthropocene concept _____	122
Conflict and consensus _____	131
On the road to a green innovation location _____	138
Imprint _____	145



Sigmar Gabriel

Federal Minister for Foreign Affairs

This Almanac contains concrete examples of sustainable thinking and action, which is ever more important for our societies.

Dear readers,

There are countless impressive examples of sustainable action in our country. Moreover, German companies operate sustainably abroad. With their products and services, they are successfully mastering the economic, ecological and social challenges of our time, thus showing that sustainable development offers our business community and society great opportunities.

This Almanac contains concrete examples of sustainable thinking and action, which is ever more important for our societies. Over the years, this awareness has become the political guiding principle in Germany. This is made evident, for example, by the 2030 Agenda for Sustainable Development as well as the 2016 National Sustainable Development Strategy. Sustainable development has become the focus of attention. This is the only way to ensure the well being of future generations.

Various crises in our world stem from the lack of sustainability when it comes to concrete action. That is why all three pillars of sustainable development – economic, ecological and social – are fundamental principles of German foreign policy. We can only achieve lasting peace and security if we safeguard the basic economic conditions in which people live, protect our environment and strengthen social cohesion. However, no one will be able to master alone the transformation which the international community has decided to carry out on the basis of the 2030 Agenda: we all have to work together as partners on this.

The 2017 German Almanac of Sustainability sets out model procedures from which we can all learn and be inspired. This work contains information about outstanding initiatives and projects which serve as examples of sustainable development "made in Germany".



How we see the world

An introduction to this Almanac by MARLEHN THIEME
Chairwoman of the German Council for Sustainable Development

**We can look at the world from different perspectives.
Depending on the perspective and focus, we see different things.**

When we look at the short term, we see refugees and displacement, nationalism and populism, societies with many old or many young people. When we take a longer-term perspective, over-use of nature, heating of the atmosphere, social segregation between poor and rich and north and south come into focus, as does dead-end growth searching within itself for a purpose. However, we also see the opportunities of change offered by the concept of sustainable development. Many people in Germany now consider this change important.

Sustainability: fulfilling the needs of people living today in a way that gives future generations a fair chance at an intact world, a healthy life, the beauty of nature and positive coexistence.

Old thought patterns must yield to efforts to find solutions in partnership. The sustainability of traditional concepts of economy and society must be re-evaluated. This is the starting point for giving sustainability the necessary vitality.

A purely superficial, fashionable and sensationalist communication of the concept of sustainable development can be damaging. Such communication must be opposed. However, there is another communication deficit.

"Sustainability – Made in Germany" is still not well enough known outside of Germany. That we are more tolerant and cosmopolitan than ever might be appreciated by many, as are the buzzwords transition to a new energy system, resource productivity, sustainability strategy. But too little is known about what is behind it and makes it possible. That is why we made this Almanac. With practical examples and threads, it shows how society as a whole in Germany is responding to the topic of sustainability. The government's actions and responsibilities remain highly important, but are not the main subject of this book.

How we manage our economy, how we consume, and how we live and do business in Germany and with our international partners, not only affects us and our prosperity, it also affects the lives of people in many parts of this world, and affects nature and resources. Our responsibility does not end at our national borders. To reach the goal of sustainable development in Germany, we must also actively take on global responsibility.

The process of sustainable development has led to a great response by society, that goes beyond mere government responsibility. The Almanac aims to present this clearly, in depth and critically. By no means claiming to be exhaustive, it tells concrete and tangible stories. The goals of sustainable development are an opportunity for everyone.



THE GERMAN SUSTAINABLE DEVELOPMENT STRATEGY



How is Germany implementing the 2030 Agenda?

The German Sustainable Development Strategy

What is the German Sustainable Development Strategy?

For the German Government, the promotion of sustainable development is a fundamental goal and the yardstick of our governance. The German Sustainable Development Strategy defines the relevance of sustainable development to government policies and determines specific goals and measures across the entire range of political issues. It thus provides the framework for the required long-term direction of sustainable development policies. The strategy is based on an overarching, integrative approach: Stable long-term solutions will not be achieved unless the interaction between the three sustainability dimensions is taken into account.

Sustainability is the yardstick of our governance.

The Sustainability Strategy aims to promote efficient economic, socially balanced and ecologically compatible development, with the planetary boundaries of the earth and the principle of human dignity providing unconditional guidelines for all political decisions.

The strategy brings together sustainability contributions by various policy areas, encourages greater coherence and resolves the conflicting goals that arise from the large number of systemic interdependencies. In this way, the strategy provides guidance for globally responsible, intergenerationally fair and socially integrative policies.

Revised in 2016 – sustainability in, by and with Germany

The Sustainability Strategy revised by the German Federal Cabinet in 2016 provides an essential framework for the Federal Government's national implementation of the 2030 Agenda. It represents the most comprehensive advancement of the Strategy since its inception in 2002 and shows Germany's commitment to the ambitious, far-reaching implementation of the 2030 Agenda and its constituent Sustainable Development Goals (SDGs). The 2016 German Sustainable Development Strategy details the measures taken to implement the 17 SDGs at three levels: Measures with a national impact *in* Germany are joined by measures with an international impact effected *by* Germany as well as Germany's support of other countries in the form of bilateral cooperation (measures implemented in conjunction *with* Germany).

SUSTAINABILITY – A JOINT PROCESS

The Federal Government's revised Strategy edition focuses on dialogue and cooperation. Between autumn 2015 and spring 2016, five public conferences took place, which were attended by high-ranking representatives of the Federal Government, the state and municipal governments, a variety of non-governmental groups and the general public. At the end of May 2016, the German Chancellor launched the second phase of the dialogue discussing the draft strategy that had been published online. The subsequent consultation event at the Federal Chancellery was attended by representatives of over 40 associations and numerous statements were made. A number of suggestions submitted during the dialogue process provided valuable suggestions.

Sustainability management

The centrepiece of the German Sustainable Development Strategy is a sustainability management system involving specific implementation objectives and schedules, indicators facilitating continuous monitoring, control regulations and institutional implementation regulations.

MANAGEMENT RULES

The general requirements applying to all sustainable policy action are defined by twelve management rules.

ACCORDING TO THE FIRST BASIC RULE OF THE STRATEGY

Each generation must resolve their own problems and must not postpone such solutions to coming generations. At the same time, they must provide against any foreseeable future liabilities.

RESULT ANALYSIS THROUGH TARGETS AND INDICATORS

The Sustainability Strategy comprises 63 so-called key indicators. In most cases, the indicators are associated with quantified targets. At least one indicator-based target has been defined for each of the 17 SDGs. Frequently, the public associates sustainable development primarily with environmental issues or international cooperation. However, in actual fact, the sustainability principle concerns all policy areas. Aside from climate protection, biodiversity, resource efficiency, mobility, etc., the political goals of the Sustainability Strategy also include poverty reduction, education, health, equality, solid government finances, fair distribution and the combating of corruption. In line with the contents of the 2030 Agenda, an additional 13 subject areas and 30 indicators have been included in the Sustainability Strategy.

REGULAR MONITORING: HOW CAN SUSTAINABILITY BE QUANTIFIED?

Successes and failures in the achievement of the strategic goals can be controlled through transparent, regular monitoring. Aside from serving as a basis for controlling sustainable policies and making necessary readjustments, such monitoring also provides a transparent source of information for democratic decision-making and discussion. Every two years, the Federal Statistical Office publishes a report on the current status of the indicators, while the Strategy itself is refined every four years. Independent specialized statisticians analyze the indicators on their own authority. The indicator report uses weather symbols to signal whether the sustainability targets will be achieved if current developments continue. According to current analysis by the Federal Statistical Office, 27 indicators have a predominantly positive status or trend, juxtaposed with 29 indicators with a predominantly negative status or trend; for seven indicators, status or trend statements are currently not possible. Even though numerous targets show positive developments, some areas show little or no progress.

SUSTAINABILITY IMPACT ASSESSMENT

The guiding principle of sustainability is to be included in all laws and statutory regulations right from the beginning. In the Joint Rules of Procedure of the Federal Ministries, sustainability has therefore been established as a binding criterion in the impact assessment of all proposed laws and regulations.

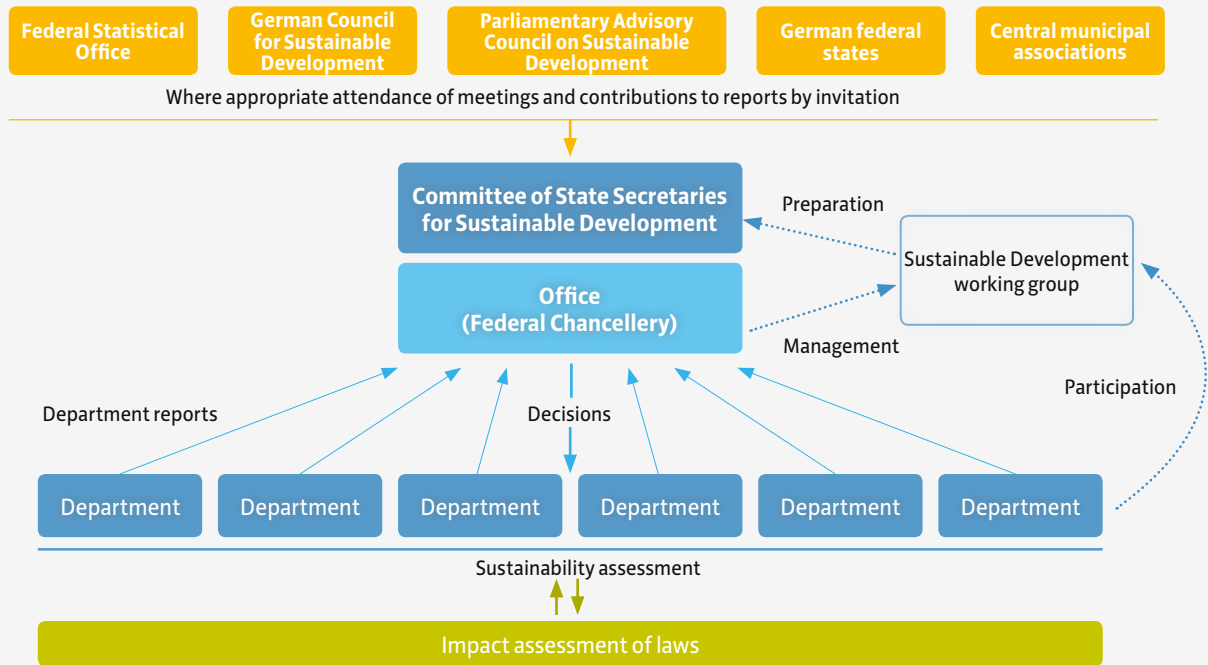
SUSTAINABILITY PROGRAMME OF MEASURES

‘Setting a good example’ is the motto of a comprehensive programme of measures promoting sustainable administrative action that was passed by the Federal Government in 2015. Among others, the programme comprises targets and measures for reduced energy consumption in government buildings, procurement standards, sustainable event management and an improved compatibility of family, or home care and work.

SUSTAINABILITY –**A TOP MANAGEMENT PRIORITY INVOLVING ALL GOVERNMENT MINISTRIES**

Sustainability concerns all policy areas. Owing to the cross-departmental character and special importance of the subject, responsibility for the German Sustainable Development Strategy is in the hands of the Federal Chancellery. In Germany, sustainable development is thus a top management priority. The design and implementation of the strategy requires close cooperation and inclusion of all ministries. To further coherence between political measures, sustainable development coordinators will be introduced as central contacts in all ministries.

Sustainability Management



Source: Federal Government of Germany

THE COORDINATION:

THE STATE SECRETARIES' COMMITTEE

Chaired by the Chief of the Federal Chancellery, the Committee of State Secretaries serves as the central coordinator for the Sustainable Development Strategy. The Committee is tasked with ensuring that the strategy is a central theme which applies in all policy areas. The committee meetings are also attended by external experts in the fields of business, civil society, associations, state governments, local authorities and the EU Commission. In addition, the ministries present their sustainability reports.

PARLIAMENTARY ADVISORY COUNCIL ON SUSTAINABLE DEVELOPMENT

The principle of sustainability was established in the German Bundestag in 2004. Since then the Parliamentary Advisory Council on Sustainable Develop-

ment has been advising the government on national and European sustainability strategy. It also reviews the evaluation of the sustainability impact assessments (when the regulatory impacts) of proposed legislation (are assessed).

GERMAN COUNCIL FOR SUSTAINABLE DEVELOPMENT

The German Council for Sustainable Development has been advising the Federal Government in all questions relating to sustainability since 2001 and brings the issue to the attention of the public. The professional and personal backgrounds of the current 15 members, who were appointed by the German Chancellor on the 26th October 2016 for a period of three years, reflect the three dimensions of sustainability. The independent Council publishes statements and suggestions regarding the advancement of the Strategy.

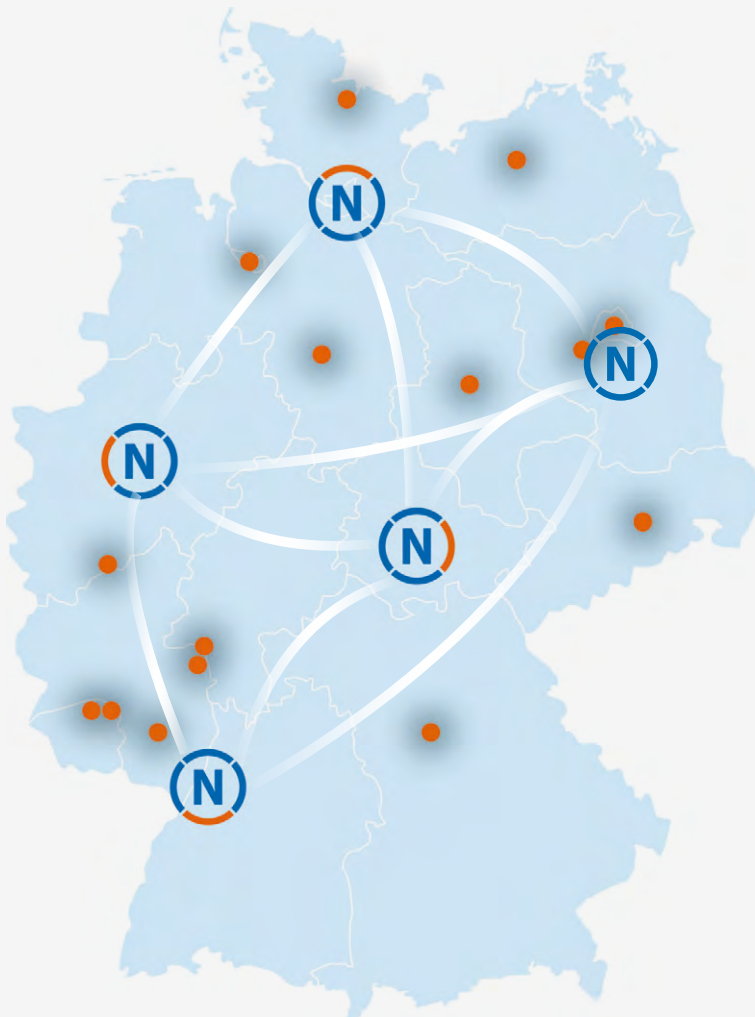
Regional Hubs for Sustainability Strategies

Implementation of the global sustainability targets requires new forms of cooperation between governmental and non-governmental players.

To cope with this approach and to the regional and local relevance of the global sustainability targets, the "Regional Hubs for Sustainability Strategies" (RENN) project has been initiated by the German Council for Sustainable Development in 2016. Coordinated by the Council's central office, four Regional Network Centres have been established across the German federal states. The Network Centers link existing sustainable development projects and initiatives, promote the exchange of experience and encourage social transformation. This extends the reach of complex sustainability issues across regions and state borders.

For further information:

www.renn-netzwerk.de



RENN.nord

Schutzgemeinschaft Deutscher Wald, Lv. Hamburg (SDW) e.V.
Am Inseipark 19, 21109 Hamburg

RENN.mitte

Zukunftsfähiges Thüringen e.V.
Schönbrunnstraße 8, 99310 Arnstadt

RENN.süd

Nachhaltigkeitsbüro der Landesanstalt für Umwelt, Messungen
und Naturschutz (LUBW) Baden-Württemberg
Griesbachstraße 1, 76185 Karlsruhe

RENN.west

Landesarbeitsgemeinschaft Agenda 21 NRW (LAG 21) e.V.
Deutsche Straße 10, 44339 Dortmund

RENN.Leitstelle

Rat für Nachhaltige Entwicklung, Geschäftsstelle c/o GIZ GmbH
Potsdamer Platz 10, 10785 Berlin

CLOSE COOPERATION AT FEDERAL, STATE AND MUNICIPAL LEVELS

The legislative and executive competence regarding important sustainable development aspects is held by the state and municipal governments. The Sustainability Strategy creates mechanisms and a framework for the enhanced coordination of sustainable development measures among the Federal Government, the state and municipal governments. The Federal Government is working closely with the state governments and supports the municipalities in their efforts to contribute to the implementation of the 2030 Agenda. This involves various activities, among them the Mayors' Sustainability Network initiated and supported by the German Council for Sustainable Development or the new Regional Network Centres initiative.

Sustainability – well-established in politics and society

The strategy supports dialogue and cooperation between civic groups pursuing sustainability goals and promotes knowledge, skills and opportunities for involvement. In the Sustainability Strategy 2016, the Federal Government announces

its intention to integrate civil society players even further in the ongoing work on the strategy and its implementation. This is to be achieved via the introduction of a regular dialogue format and closer integration of civil society players in the preparation of meetings of the Committee of State Secretaries. The scientific community has launched various initiatives supporting the implementation of the SDGs. The Federal Government has stated its intention to incorporate these initiatives and offer a platform that pools all form of scientific support for SDG implementation.

WELL ON THE WAY

From the Federal Government's perspective, the revised German Sustainable Development Strategy is an important first step on the path to implementing the 2030 Agenda, which it declares to continue consistently in the future. All governmental and non-governmental institutions, social groups and individuals are invited to participate actively.

[*The German Strategy for Sustainability 2016*](#)
(full text, only in German)

[*English Summary*](#)

Other publications of the German Council for Sustainable Development

- For bolder, not just moderate changes! The government's draft on sustainable development falls short of the requirements. Statement on the government's draft of 31 May 2016 on the German Sustainable Development Strategy
- More courage! Sustainability must prove it is politically relevant. Expectations and recommendations for the Federal Government
- Sustainability – Made in Germany. The Second Review by a Group of International Peers, commissioned by the German Federal Chancellery

What is sustainability?

“The 2030 Agenda and the “Five P’s”¹

People

We are determined to end poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment.

Planet

We are determined to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations.

Prosperity

We are determined to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.

Peace

We are determined to foster peaceful, just and inclusive societies which are free from fear and violence. There can be no sustainable development without peace and no peace without sustainable development.

Partnership

We are determined to mobilize the means required to implement this Agenda through a revitalized Global Partnership for Sustainable Development, based on a spirit of strengthened global solidarity, focussed in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people.



¹ Source: “Transforming our world: the 2030 Agenda for Sustainable Development”

Sustainability as a social process

The German Council for Sustainable Development's contribution to the German Sustainable Development Strategy

What is new

We are in a position today no generation before us has ever been in. We have never been more capable of inflicting harm on nature. The foundation of all human life has never been so precariously dependent on the anthropogenous influence on the climate. Financial crises have never thrown more people off their economic course than today. Digital data worlds have never before let us conjure up a so-called singularity of man and machine. And we have never had more reason for using the term Anthropocene.

On the other hand, there has never been such an intensive search for sustainable options. Prosperity and a good life for all have never been as attainable as they are today. Never before have key terms like universal sustainability goals, decarbonization or damage neutrality of land use formed part of political obligations at the highest level.

The question is: How do we proceed with the simultaneous presence of risk and opportunity? Global diplomats have set the agenda in Addis Ababa, Paris and New York in 2015. Germany, too, has committed to making ambitious and significant contributions to sustainability and climate protection, both internally

In Germany, sustainability policies go far beyond what governments (can) do.

The German Council for Sustainable Development raises awareness of the sustainability concept among businesses and society as a whole. The German Sustainable Development Strategy acknowledges this important responsibility. Based on this comprehensive understanding, the Sustainability Strategy has brought the three-pronged approach to the attention of politics and the public. It gives a clear impression of the measures required:

- a) *in* Germany (for example to reduce the ecological footprint),
- b) *by* Germany (through peacekeeping, joint development work and international cooperation) and – as a new element –
- c) *with* Germany (by creating possible solutions at a national level, which are also useful in other countries, such as in photovoltaics).

and mutually with all others. The universal nature of the matter brings with it a new quality; global and republican thinking close ranks. Accordingly, the political understanding of the Sustainability Strategy must be restructured and reshaped. In order to do so, we recommended approaches and reform solutions to the Federal Government in a timely and comprehensive analysis. In particular, the German sustainability targets should structurally meet global targets and take the three-pronged approach (measures

in Germany, a positive effect on the world via domestic measures and with German aid in partner countries).

These paper-based approaches must now be put into practice, transforming them from a good idea to a guiding force. However, this results in conflicting goals. That is an argument for sustainability strategies, not against them. Whether in the government, in municipalities or in companies, they must be coordinated and managed in a learning process. That affects all action levels in the country – in their respective spheres. Politically, this entails managing public affairs, while it entails everyday decisions at an individual level. Everyone makes decisions.

Everyone is part of a generation that is responsible for its own future and all life on earth, by respecting ecological limits.

Social and financial resources must be handled with dignity and fairness, strain and risks must be avoided, and opportunities and freedom must be increased in a global context. Where strains on the future are inevitable, they should be minimized as a precaution, and innovations and improvements should be used to create future alternative solutions. This must be a fundamental principle of sustainability.

The power

Germany has had a Sustainability Strategy since 2002, but the broader public is hardly aware of it. This is a serious political shortcoming, as sustainability strategies proved their usefulness and innovative power to interested parties and experts years ago.

Our dialogues with experts and target groups like the 100 youngest municipal politicians, with mayors, young people, universities and scientists from social and ecological research projects, but in particular with companies and business sectors are proof of this.

The grass-roots initiatives in particular have triggered a positive trend. Some of them, as the tip of an immense iceberg, we acknowledge every year as Workshop N projects and document their initiatives. They underline how sustainability has become part of everyday reality and provides orientation for the creative political culture.

It is an encouraging response when more and more people in companies, municipalities and in the sciences set course for sustainability. Of course, more is both necessary and possible. However, their participation, for example in the German Sustainability Award, points out that they can no longer be ignored.

Altogether, there is still room for improvement. That is why we are establishing Regional Hubs for Sustainability Strategies. We are working to establish sustainability strategies in municipalities, companies and the sciences, to encourage industry sectors and non-governmental organizations to adopt further and more ambitious sustainability strategies in value chains such as in the coffee, textiles, palm oil, cocoa, soya, biomass sectors etc. We support new concepts for avoiding food waste, for a sustainable circular economy and for sustainable management.

The goal of sustainable cities and settlements is a key requirement for dedicated climate and resource protection and aims to combine it with a democratic and openly accessible public service.

All of the more than 30 mayors involved in the “Sustainable City” dialogue have committed to this.

We have continued the “Sustainable Shopping Basket” as a project since 2001, most recently in a Turkish version. This clear decision guidance for product labels appeals to us all as consumers. We update it on an ongoing basis. For politicians, this means that measuring sustainability in consumption via indicators is possible and feasible.

The Sustainability Council has successfully positioned the “Sustainability Code”. It is a great opportunity to integrate sustainable management in the market. As a new and practical transparency initiative,

Recent projects by the Sustainability Council (selection)

[The Sustainability Code](#)

[Mayors' dialogue "Sustainable City"](#)

[German Sustainability Campaigns](#)

[Project N Award](#)

[University and Sustainability Dialogue](#)

[Future Vision 2050 Dialogue](#)

["Generation Carlowitz" Dialogue](#)

[Municipal Sustainability Dialogue Project](#)

[The Sustainable Shopping Basket](#)

[RENN, Regional Hubs for Sustainability Strategies](#)

[Cherish the Land with DB](#)

[Support for the German Sustainability Award](#)

[Wettbewerb BodenWertSchätzen](#)

(Competition for soil conservation in cooperation with the DBU)

it has a good reputation and there are many renowned users in business and politics. In spite of all this success, the main challenge has not been tackled yet: There is still a long way to go before sustainability will be a natural part of decision-making processes and actions. Sustainability profiles of clients and contractors, financiers and investors are to be the basis for future financial transactions. That would minimize risks and increase opportunities for sustainable business.

After 15 years

This year marks 15 years of the German Council for Sustainable Development. That inspires both amazement and impatience. The term sustainability has been adopted by society. That will amaze those who 15 years ago said that we were focusing on an artificial word and were no better than an alibi for government inaction. Environmental activists feared that they would get a raw deal in the balance of interests with social and economic goals. Practical actions have disproved these reservations and prejudices. Today, the sustainability debate addresses specific goals, planetary limits, the Anthropocene and the global sustainability agenda as a matter of course.

At the time, we were among the first attempting to introduce quantifiable goals and indicators to the world of politics. Politicians fought back with fundamental reservations. Today, the principle has been accepted and is a more or less recognized political format, even at a global level.

More and more people know about sustainability and allow it to influence their purchasing behaviour and lifestyle habits, or at least try to do so.

However, has sustainability really reached the cross-party consensus that everyone is talking about? And is it already an established social consensus? How will it influence the formation of government when the next German Federal Government is elected in 2017?

Will it drive innovation and reforms or will it be buried by bureaucracy? Will sustainability really receive the constitutional priority it deserves as a guiding principle for the future? Will we be able to develop our institutional beginnings?

Now, of all times, the political power of the term is starting to flag.

Now of all times when sustainability and climate protection must be advanced globally, the political momentum is mystifying us. What is the political significance when many voluntarily avoid using plastic bags when shopping, but every book sold is individually shrink-wrapped and packaged foods are preferred to unpackaged items? When the fear of poverty has more political weight than the actual fight against poverty? When the energy transition has broad public support but we do not even take first steps to transform other important fields?

Neither satisfaction nor a simple wait-and-see policy are advisable based on the wave of relative successes. Now is the time for a detailed assessment of the status quo and to think deeply about what will and should result.

In our country, the political effect of every value consensus is to unite the disheartened and frightened with influencers and the courageous. The defence and preservation reflexes are met with a willingness to change and the need for structural stimuli, such as in automobile construction or coal-fired power generation.

In sustainable development, a more equitable distribution should be achieved.

However, it must be even more important for us to tackle the roots of crises, unease and despondency in Europe.

To achieve this, we need inspirational ideas for transforming the energy system to renewable energy sources, for building a waste-free circular economy, for care

and pension systems focused on public welfare, sustainable construction in existing building stock and for local public transport. In an exemplary manner, this points the way forward for a sharing economy and digital agenda, competitiveness and prosperity.

Of course, we cannot simply go back to "business as usual."

It is good that many are committed to this. However, the phrase is meaningless without a clear definition of the terms "usual" and "business". We certainly have a long way to go. Our federal constitutional order must empower democracy and the market for integration and ambition. In spite of the basically good conditions, some things will be challenging. However, there will also be opportunities, both those that are already apparent, and far more that will surprise us. Let us be prepared and make the most of what is offered to us.



Sustainable development means placing environmental aspects on an equal footing with social and economic aspects.

Sustainable management thus means that we must leave sound ecological, social and economic structures behind for our children and grandchildren.

None of the three is possible without the other two.

GERMAN COUNCIL FOR SUSTAINABLE DEVELOPMENT

What is the German Council for Sustainable Development and what does it do?

The German Council for Sustainable Development (RNE) was first established in April 2001 by the German Federal Government. It is comprised of 15 public figures. The Council advises the German Federal Government on its sustainability policy and strives to contribute to the development of the Sustainability Strategy with proposals on goals and indicators, and to propose projects to implement this strategy. Promotion of social dialogue on sustainability is another task of the German Council for Sustainable Development. By pointing out the consequences of social action and discussing solutions, it helps improve the specific understanding of sustainability policy among all stakeholders and in the population as a whole.

German Chancellor Dr. Angela Merkel is continuing the national sustainability strategy and appointed the RNE for a further three years on 1 November 2016. As an independent body, the German Council for Sustainable Development advises the Government and makes regular proposals to enhance the German Sustainability Strategy.



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Deputy Secretary-General of the Council

Other publications by the German Council for Sustainable Development

- The Role of National Sustainable Development Councils in Europe in Implementing the UN's Sustainable Development Goals



DON'T ASK WHAT SUSTAINABILITY CAN DO FOR YOU, ASK WHAT YOU CAN DO FOR SUSTAINABILITY!

An essay on the first
Open SDGclub.Berlin



The first Open SDGclub.Berlin

by GÜNTHER BACHMANN

Secretary-General of the German Council for Sustainable Development

There was a certain scepticism in the air. 90 people from 32 countries are standing at the reception, many with arms crossed, all sceptical or cautious. They have attended enough conferences with overlong stage presentations. Their hopes have been crushed too often. Now they are arriving at the first Open SDGclub.Berlin, organized by the Sustainability Council in November 2016.

SDG refers to the Sustainable Development Goals as part of the global 2030 Agenda, passed by nations worldwide in 2015. They describe the aim of tackling sustainability universally in all nations very generally, although with some rough edges. They aim to halve the quantity of foodstuffs lost during the harvest or thrown away before consumption. They aim to combat poverty and hunger, and also promote healthy food, a fair economy and environmental protection, good school education and sustainable cities.

For the first time, they make sustainability tangible in targets and numbers.

But first, we need to breathe life into the diplomatic wording. That will take imagination and bravery. It will also take government action and those in power to take responsibility – and broad-based action in society as a whole.



Our invitation takes an abstract concern and turns it into something personal.

It aims to turn conviction into inspiration. The Open SDGclub.Berlin is open because it is not exclusive nor held in a back room, and because everyone is expected to contribute. Active members of sustainability councils or similar committees, non-governmental organizations and business associations, as well as from some UN sustainable development institutions are welcome to participate. The “dot Berlin” part highlights the intention to copy the whole thing in other places. Would this be just another conference without consequences? There are far too many of those already. Words instead of action, feeling comfortable in the safe company of like-minded people? And achieving nothing in the end? That is what I wanted to know, too.

They all have hopes, but their experience warns them to be prepared for disappointment. The first surprise is that very few attendees know one another – it is not just another “family get-together.” And then:

There is no lectern. The chairs are set up in circles around a circular stage in the colours of the 17 Sustainable Development Goals. I simply hand in my typed four-page welcome speech for the record and we start with a free-flowing interview instead. All of the participants soon start sharing their ideas openly. Attendees speak from the middle of the floor. The free word is what counts. Whether you believe it or not, even that is new. The enthusiasm increases.

The debate shows that what governments do or fail to do is still important.

However, the ideas and innovations from the heart of society are crucial. That is easier said than done. Where state authorities are hardly interested in environmental protection, human rights and a fair economy, as a consequence, they also purposefully restrict the political freedom of non-governmental stakeholders. Wherever society relies on the government unilaterally and makes it the key to sustainability, as a consequence, they also purposefully restrict the political freedom of non-governmental stakeholders. The same is true when people only talk about, but not with business stakeholders. That often even cripples the ambitious goals and actions, leading to disappointment and senseless fighting between communities of specialists, lobbies and factions with different responsibilities. There is a chance of a breakthrough and a real improvement if the universal sustainability goals and the UN Agenda for Sustainable Development become issues for society as a whole. New ideas are created in an inspiring exchange of various experiences. The Club asks what people themselves have done, as the total is more than the sum of the parts.



In smaller laboratories and different formats, the Club tries to approach a contemporary interpretation of sustainability and social impulses and movements in order to overcome gridlocked factions; in short, what I consider the "18th SDG" (see below).

The heading for the second Club day is "A Space for Ideas". We changed the venue and moved to an old factory in a typical Berlin courtyard. One hundred years ago, the air here was filled with steam and hammering sounds. Now it seems like the graffiti and the paint on the doors and windows are all that is holding the decaying building together. The staircase to the third floor is dark and damp. The next surprise comes when we reach the top. We find a factory loft with a warm atmosphere and old industrial lamps, lockers, wooden tables and stone walls. A space for ideas, ideas which come when experience and expectation are combined. It helps when progressive thinking can be combined with concepts and when you re-network things that already exist and facilitate cooperation.

Can the host, especially a German host, lead the way and propose solutions? Wouldn't it be better to moderate and support from the back? Isn't that more like Germany's traditional role? Don't we have to reduce our historic environmental debt – the ecological footprint of resource consumption and harmful emissions – first? Good friends advised me not to make too many suggestions of my own. What is right?

In Space for Ideas, I described which of our projects and experiences could be used



elsewhere. I talked about sustainability campaigns in Germany and Europe.

With little effort, we can increase the political profile of many thousand campaigns at a local level throughout the country.

At "Actions for Tomorrow," we showed films, cooked together or organized a recycling campaign. We are already open to entries from around the world. How simple would it be to support this actively at a broad level? I talked about the Sustainability Code we developed in conversation with stakeholders and in practice. It helps companies report on their contributions to sustainable development, and could also be used in other countries. How simple would it be to use the instrument outside Germany? We focus our conferences and meetings consistently on green matters to show that sustainability



is always specific and talk must be followed by action. Wouldn't that be useful elsewhere, too?

Of course, in Germany we are still at square one in many ways. That becomes clear as well. Our agricultural landscape lacks biodiversity. Land consumption, excessive individual consumption and wastage overcast good approaches for sufficiency and savings. Instead of transitioning to full recycling, we still import commodities that are produced in other parts of the world and cause ecological and social problems there. Of all highly developed economies, Germany is one of the most vital. The overall debt is falling (and is still above the Maastricht limit), and the income differences have not increased in recent times. In spite of this, the population is growing increasingly discontented. That cannot be explained on a material basis alone.

The silent pressure for economic growth is still forcing us in wrong directions – culturally and socially as well as ecologically and even economically.

On the third day of the Open SDGclub, the scepticism yielded to curiosity about our own strength. Esteem builds trust. Trust becomes mutual strength. Attendees start developing initial plans for their own campaigns “at home.” There are no membership cards for the Club. It is open and its participants are to act as multipliers. However, people seem increasingly to want proof of membership. Small snippets of the stage floor, cut out by the participants themselves, will serve as admission ticket for the invitation to the next SDGclub.Berlin, which I announced for 2018. The biggest surprise for me was that people were singing (where do things like that happen?). “You’ll never walk alone” and “What a wonderful world,” with voices from Barcelona and St. Lucia.

The conclusions? The Open SDGclub.Berlin met all expectations and raised hopes for more and better multi-stakeholder dialogues. Better in the sense of an encouraging culture of communication and equal participation with clarity on the conflicts and differences. For governments and parliaments – and thus for democracy – this is essential to make the transition to more sustainability. That will be hard work and it will take more courage to accept responsibility and provide leadership.

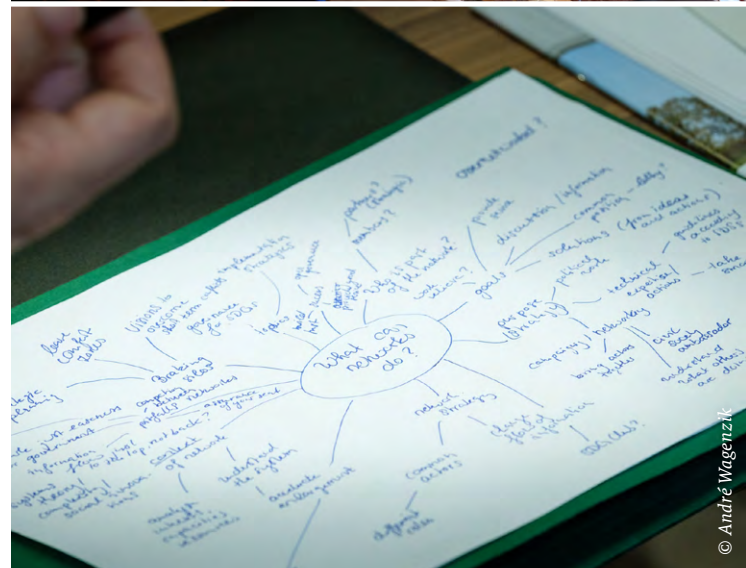
Traditional leadership models are no longer convincing. Huge company headquarters are no longer intimidating; rank and title are less and less suitable as symbols. Of course,

money still counts and entire governments are constituted based on this standard. However, their symbols of power only count within their own, protected ranks.

To advance the transition to sustainable development as a social force at all levels will take different leadership qualities.

They derive power from integrity of word and deed. Whoever practices what they preach also convinces others. It doesn't all have to work out one hundred percent – conflicting goals don't just disappear. It is important to tackle them consciously and openly. The people with the greatest influence on the future are those who behave as though it were already here. Hope is nothing for people who are not informed well enough.

Many thanks to Verónica Tomei and Isolde Magin-Konietzka for the technical preparation and careful organization and the entire club for their dedicated participation.



Learn more

• www.nachhaltigkeitsrat.de/en/opensdgclub



Social justice in Germany

Part of the sustainability agenda



Human rights, equal opportunities, rule of law, access to education, shared prosperity – the United Nations' 2030 Agenda for Sustainable Development makes it clear that sustainable development is impossible without justice.

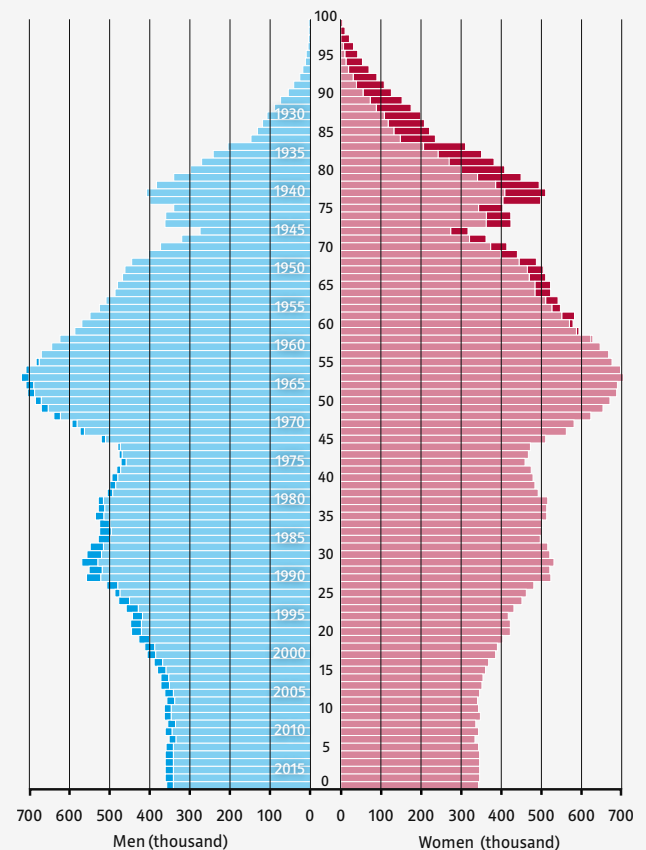
by ROBERT BÖHNKE and VERÓNICA TOMEI

As early as 1987, the Brundtland Report by the World Commission on Environment and Development, considered to be one of the most important catalysts for sustainability policy, based its pioneering definition on generational justice: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The 1992 United Nations Conference in Rio de Janeiro made the principle globally valid – sustainable development incorporates the social, ecological and economic dimension. It is also the foundation for the 2030 Agenda, which was passed in September 2015, and its 17 global sustainability goals. None of the goals stands by itself, they interact and are interrelated. The Agenda brings together the politics and debates on

Population pyramid in Germany

in 2014

www.service.destatis.de/bevoelkerungspyramide/



Source: Destatis

classic development policy and global sustainability policy. All United Nations members have committed to reaching these goals by 2030. Sustainable development can only succeed if justice and freedom allow people to use their potential.

The vision of sustainable development in Germany can be traced back to the 18th century. It also has long roots reaching far back into the past in other countries and economic regions. In Germany, the vision has been boosted in particular within the past 20 years.

1987

The World Commission on Environment and Development defines the concept of sustainable development in the Brundtland Report.



BEST PRACTICE

Kiron Open Higher Education: Higher education for refugees

Kiron Open Higher Education was founded by students as a crowdfunding project in 2015. The goal of the social startup is to reduce the bureaucratic barriers facing refugees when beginning higher education in Germany. Students complete a two-year online course, followed by a one-year programme at a partner university. Kiron also supports the students with advice and equipment.

Unlike public higher education institutions, this programme does not require a specific residency status and location, and students do not have to provide certificates. The bachelor degree programme is free of charge. The 1500 current students can choose from courses in IT, social studies, business studies and engineering. Kiron has already succeeded in partnering with 24 higher education institutions in Germany, France, Jordan and Italy.

Kiron Open Higher Education is supported by the German Federal Ministry of Education and Research and a network of foundations and companies.

www.kiron.ngo/about

Reliable framework conditions, common values, equal opportunities, trustworthy institutions or a transparent and independent jurisdiction are essential for long-term positive and sustainable economic development according to the “2015 Report on the Human Development” by the United Nations Development Programme (UNDP). Germany has the right framework conditions.

The goal of social justice has a long tradition in Germany

The debate on the social dimension of sustainability has also been enhanced by the international 2030 Agenda process in Germany. We can look back on a tradition initiated as early as the end of the 19th century in the socially enlightened Rhine capitalism, and in particular with Bismarck’s social legislation: Early forms of health insurance, accident insurance and invalidity and old-age insurance for labourers took shape, and have now matured to the concept of social market economy and ecosocial responsibility today. Justice is not merely the responsibility of the government and legislature. Germany is characterized by inclusion at all levels of society: From the government to trade unions, employer associations, non-governmental organizations to civic

International developments

1992

The UN Global Summit in Rio de Janeiro passes Agenda 21.

2000

The United Nations pass the eight Millennium Development Goals, including combating poverty worldwide.

Development in Germany

June 26th, 1998

The final report of the commission of inquiry “Protecting mankind and the environment – Goals and framework conditions of a sustainably future-safe development” by the German Parliament calls on the German Federal Government to develop a Sustainability Strategy.

initiatives, there is a comprehensive network of institutions and laws that is to ensure that everyone has access to the fundamental requirements for a dignified life. Accordingly, in Germany, the free



“Once general awareness returns that social well-being is not measured by rising GDP alone but primarily by society’s treatment of its weakest members, the measures necessary to transform the welfare state will meet with success.”

HEINRICH BEDFORD STROHM
Chair of the Evangelical Church in Germany

market forces are complemented by social balancing. Self-organization of society is a valuable commodity and guarantees important functions of social life. Over 20 million people volunteer in sports clubs, educational and cultural institutions, among others. Without volunteer work, it would have been more difficult to cope with the many arriving refugees in recent years. Cooperatives and charitable organizations are important pillars of society and the economy, too. The dual vocational education system ensures well-trained young people and a low youth unemployment level compared with other countries. In addition to this, there is a system of free education from primary school to higher education, for which the federal states are responsible. The government, economy and society

have developed well-established procedures. Consensus and dialogue, balance and justice are key values. However, justice is not a state, it is an ongoing process. The 2030 Agenda also imposes responsibilities on Germany.

What is the status quo in Germany?

The right to education, equal rights, freedom of opinion, creation of equal living conditions – fundamental rights are crucial. The German Sustainable Development Strategy explicitly mentions the challenges and goals of social justice in many areas. According to the OECD (Organisation for Economic Cooperation and Development), the average income equality in Germany is contrasted with a highly uneven distribution of wealth compared with other countries. The major differences between the federal states reflect the regional economic development – over 25 years after reunification, income in the new federal states of the former East Germany remains 20 percent lower than that in the former West Germany, and there are significant regional differences there, too. In a global comparison, income inequality in Germany is only moderately serious, given that the German export surplus has a mitigating effect. However, that hardly affects the debate within Germany.

International developments

2001

The European Union passes its first sustainable development strategy.

Development in Germany

In Germany, anyone with a need-weighted income below 60 percent of the median income is considered “at risk of poverty”. Keeping the number of people in this group as low as possible is a stated objective.



I think people are all equal in terms of human dignity, but not in terms of their opportunities in life. There are terrible discrepancies. The purpose of politics is to balance these discrepancies as much as possible. It's a question of equal opportunities.

GESINE SCHWAN

Gesine Schwan, President and co-founder of HUMBOLDT-VIADRINA Governance Platform gGmbH

In this respect, poverty is a challenge, even for a rich nation like Germany. This is revealed by the “German Report on Poverty and Wealth”. According to statistical monitoring on sustainable development in Germany, 10.7 percent of the population in Germany were considered materially deprived in 2015, with 4.4 affected by significant material hardships. This is a slight decrease compared with 2010. However, the strong regional differences are also relevant: In particular, the income in big cities is often lower than the regional average.

Higher costs of living in the cities often place an excessive burden on household income. Decreasing population figures in many rural regions in turn often lead to shortages of specialists, reduced tax revenue and financing problems for public service.

However, the issue of justice is more than inequality in economic development, income and assets. In the education sector, over 97 percent of the population have at least a secondary education and the level of education is increasing continuously: 40 percent of an age group start higher education today. In spite of this, educational success remains highly dependent on the socio-economic situation of the families – a key challenge for equal opportunities in Germany. That is also true of gender equality: While women today have the same education level, and in younger age groups, even a higher level of education than men, they still earn over 20 percent less on average than men in the same positions. In spite of their qualifications, women account for only 30 percent of management positions, lower than the average in the 28 EU countries. Gender equality is one of the objectives of the German Sustainable Development Strategy.

International developments

Development in Germany

April 4th, 2001

First appointment of the German Council for Sustainable Development by German Chancellor Gerhard Schröder. From 2005, German Chancellor Dr. Angela Merkel upholds the appointment.

April 17th, 2002

National Sustainability Strategy passed by the German Federal Government. Continuation of the Sustainability Strategy every four years from 2004.

BEST PRACTICE

Cooperatives: Society empowering itself

Cooperative models have existed in Germany since 1847. The first precursors were benevolent societies and loan societies, which helped farmers buy seeds and fertilizer. The loans were refinanced against the harvest yield.

Today, there are roughly 7,700 cooperatives and cooperative companies in Germany, with over 22 million members and roughly one million employees.

Cooperatives respond to structural challenges: Cooperative village shops, village guesthouses or swimming pools make regions more attractive places to live. Childcare provided by family cooperatives promotes work-life balance. Some aspects of nationwide healthcare are provided by cooperative medical centres.

The over 2,000 building cooperatives in Germany have more than three million members. Of a total 41 million apartments in Germany, building cooperatives manage over two million apartments.²

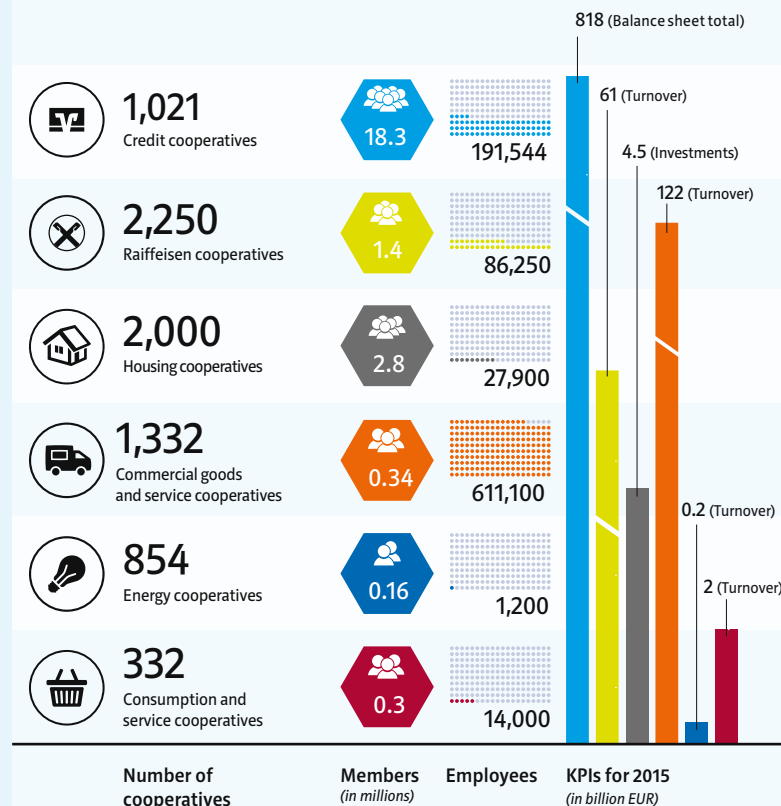
Members of building cooperatives pay reasonable rents and make democratic decisions on their residential complexes. 90 percent of the apartments, most of which are from the mid-20th century, have been refurbished and modernized. New forms of living like multi-generational houses are often organized as cooperatives.

Cooperative link:

www.dgrv.de

Cooperatives at a glance

The cooperative group is the economic organizational form in Germany with by far the most members. With over 22 million members and almost one million employees, the roughly 7,700 cooperatives are a driving force for business and society. Statistically, every fourth German citizen is a member of a cooperative. Cooperatives exist in many different areas and sectors.



Data source & diagram source: DGRV

² Source: Statistisches Bundesamt
[www.destatis.de/DE/ZahlenFakten/GesellschaftStaat/
 EinkommenKonsumLebensbedingungen/Wohnen/Tabellen/Wohnungsbestand.html](http://www.destatis.de/DE/ZahlenFakten/GesellschaftStaat/EinkommenKonsumLebensbedingungen/Wohnen/Tabellen/Wohnungsbestand.html)

Sustainable social development also means finding a way to reconcile labour market requirements and family duties. Non-monetary quality of life is becoming increasingly important, as is the desire of many women and men to work less and be able to respond flexibly to family challenges and requirements.

Inequality and social justice have many dimensions – what is considered just or unjust varies with time and social circumstances. That is true in Germany, too.

"Everyone decides"

info movie

www.nachhaltigkeitsrat.de/en/media-library/audio-video/everyone-decides



New challenges or: Money isn't everything

As in other countries, there are many critics of classic economics in Germany. New working time models, more time for families, private priorities instead of income goals – values and settings are changing continuously. Non-monetary quality of life is becoming increasingly important in many sections of the population. This also changes our understanding of development, which is significantly influenced by the industrialization of the past 200 years.



It would be great if sustainability was included in the university curriculum.

THOMAS FINGER

Founder of Bamboo Bikes

Proponents of the green economy criticize conventional economics and economic growth as an end in itself. They call for a focus on the clear benefit for mankind and the environment and emphasize that this approach creates new economic stimuli and reveals alternative entrepreneurial concepts. These already have a significant market share in Germany. The further market potential is enormous and the increasing number of start-ups shows that it is constantly expanding.

International developments

Development in Germany

January 9th, 2004

The German Parliament establishes the Parliamentary Advisory Board for Sustainable Development.

2008

The first German Sustainability Award is bestowed.



BEST PRACTICE

Arbeitsstelle WELTBILDER e.V.

Arbeitsstelle WELTBILDER is a specialist unit for global learning and intercultural didactics as well as an experimental laboratory for innovative education on development policy. The work focuses on developing, selecting and systematizing holistic methods and didactics – including and in particular towards future-proof education for sustainable development.

With the African Ways of Life educational project, Arbeitsstelle Weltbilder is changing the image and/or perspective of the common image of Africa in German society and presents a differentiated image of Africa, a continent of opportunities. The book published in autumn 2016 reports on successful, unusual, surprising, sustainable examples of an African way of life.

For further information:

www.facebook.com/african.ways.of.life

The green economy includes the traditional green technology segments, but also goes far beyond this. The focus is not on the industry but on the individual company. It is important to restructure old business practices and establish new, innovative business segments to combine production and production processes with sustainability concepts. This also applies for companies in the housing industry, the banking industry or the chemical industry.

Parts of the population in Germany, though, increasingly question growth itself, in some cases even green growth. They call for individual sacrifice and a policy of sufficiency (frugal lifestyles). There is still a strong correlation between wealth, for example the HDI (Human Development Index) and ecological resource consumption
→ see “**Ecological Footprint**”.

Instead of focusing on continually increasing the gross domestic product, more and more people advocate to set the focus on quality of life and new ways of working and coexistence. They want to establish a practice of sharing and repairing – and thus reach a higher quality of life without using up more resources.

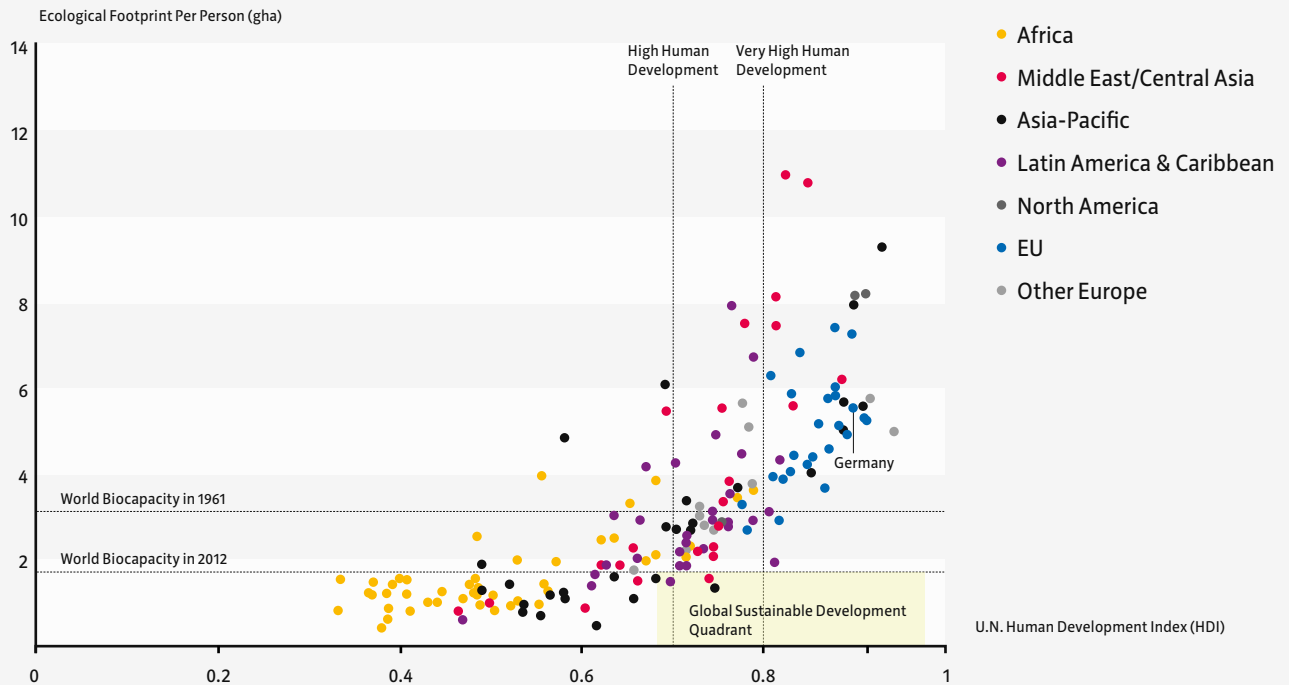
International developments

Development in Germany

2009

First Peer Review of the national sustainability strategy: While Germany is attested good preconditions for the transition to more sustainability, it is criticized for lacking a forward-looking “grand design” for its sustainability policy.

Ecological Footprint Per Person and HDI of Nations by World Regions (2012)



Source: Global Footprint Network

A third point of criticism takes a different approach. It sees Germany in the middle of a secular trend of stagnation, where demand for goods and services is chronically too low, which has been discussed as a global threat since the 1930s. The current welfare state concepts in Germany and other developed industrialized countries are coming under immense pressure

for many reasons, according to critics. How can the welfare state be maintained and made future-proof without continuous growth? This debate needs to be continued more profoundly. The details are highly controversial; common belief, however, is that we cannot succeed by simply continuing as before.

International developments

2012

At the third Rio follow-up conference, "Earth Summit," 192 countries decide to develop global sustainability targets based on a proposal by Columbia and Guatemala.

Development in Germany

2011

The Ethics Commission for a "Safe Energy Supply" appointed by the German Federal Government recommends phasing out nuclear power by 2022 while retaining ambitious climate goals: The energy transition starts.

2013

Second peer review of the German sustainability policy: "Germany has good reasons to be proud of its achievements in the transition to a more sustainable world. But the journey is far from being over"

New paths

Sustainable development creates opportunities for an open, pluralist and just society – it is anthropocentric and needs universal active participation. As a result, it is also a common solution to frustration and isolation.



*I want to be socially responsible.
That's why my flatmates and I are
actively involved in refugee relief.*

FELIX DUNKL
Trainee

The almanac is exemplary for the challenges and the social force and dynamics of the processes of change towards greater sustainability in Germany. The success of the energy transition in Germany would not be possible without the broad popular participation → [see topic “Energy transition”](#).

Also, sustainable cities cannot be planned on paper, they need the innovative power and active participation of the local people → [see topic “Changing the way we plan”](#). Our actions have effects and an impact – the 2030 Agenda requires us to fulfil our global responsibility at a local level. For sustainable development, many companies are already taking “better” approaches to business → [see topic “Changing the economy”](#). As consumers, everybody makes decisions every day – and sustainability is becoming an increasingly important influence → [see topic “Changing our habits of consumption”](#).

Other publications of the German Council for Sustainable Development

- Sustainable Development Goals and Integration:
Achieving a better balance between the economic, social and environmental dimensions
- Global and National Sustainable Development Goals and Expectations
of Germany's Institutions and Procedures

International developments

2015

The United Nations pass the 2030 Agenda for Sustainable Development with 17 Global Sustainable Development Goals that apply universally for all countries; the Climate Agreement is passed in Paris.

2016

Ban Ki-moon receives the German Sustainability Award.

Development in Germany

2015

The Sustainability Council recommends realigning the sustainability policy on the basis of the Sustainable Development Goals.

2017

New Edition of the German Sustainable Development Strategy.

Thomas Krüger

PRESIDENT OF THE FEDERAL AGENCY FOR CIVIC EDUCATION

*“Inequality gap
is widening.”*



INTERVIEW

THOMAS KRÜGER
PRESIDENT OF THE FEDERAL
AGENCY FOR CIVIC EDUCATION

The 2016 Data Report published by the Federal Agency for Civic Education presents a comprehensive overview of living conditions in Germany. What is the overall picture? Do we live in a fair and just society?

To begin with, statistical data are not self-analytical and need to be interpreted. Each individual must form their own opinion. Nevertheless, the Data Report presents clear facts that can be put into context: For instance, managers in Germany earn three times as much as normal workers, women earn on average remarkably less than men, or the hourly wage in the service industry is 22 euros in Bavaria and 15 euros in Thuringia. These are considerable differences, which require interpretation and leave room for everyone to draw their own conclusions.

Inequalities are cemented or opened up as a consequence of the low-wage sector.

Which conclusions do you draw from the Data Report?

To me it is clear that the inequality gap in Germany is widening. The Data Report supports this thesis. We need to take measures in the economic field and in the education sector to stop social inequality from growing worse. In democratic societies, the aim is not enforced conformity but equal or equivalent access to opportunities. We must keep this in mind.

Nevertheless, social standards in Germany are seen as high. Where do we have deficits and how can we remedy them?

In terms of social services, we do indeed have high standards, but only in certain areas. According to the OECD, Germany is somewhere in the middle field since the concepts applied in reaction to globalization and the dissolution of boundaries are also taken into account. Inequalities are cemented or opened up as a consequence of the low-wage sector. This background puts social standards into perspective. We actually have a need to catch up, both where social standards are concerned and generally in terms of our economic order. Policies must create more equality in society.

How does our social market economy encourage sustainable development? Which factors are positive, which act as barriers?

This is, of course, a very controversial subject. It depends from which perspective you approach this challenge. In our bpb:magazin issue of October 2016, sociologist Stephan Lessenich illustrates the significance of the instruments employed in a social market economy. He posits that government welfare measures tend to favour and stabilize sustainable social development. In contrast, business journalist Rainer Hank is of the opinion that government welfare measures do not contribute to the reduction of inequality. Hank therefore calls the principle of government welfare instruments into question.

INTERVIEW

THOMAS KRÜGER
PRESIDENT OF THE FEDERAL
AGENCY FOR CIVIC EDUCATION

I personally support Stephan Lessenich's opinion. If one considers the stability Germany has achieved over time, it is clear that the social market economy as economic and social order has given Germany a high level of stability.

At the same time, we observe a social division at the micro level that manifests itself, for instance, in wealth inequality. How can we create more equal living conditions?

Equality should not be mistaken for, "sameness" in the sense of conformity. Equality in society means that the differences in development opportunities and income structures cannot be defined out of existence. We are all different and follow different paths through the education system. Some exploit the potential more actively than others. We must make sure that the inequalities in society do not grow too big and social cohesion remains possible. Of course, this will not work if society is drifting further apart and inequality becomes an intrinsic feature of the economic order, i.e. a small number of people earn a lot of money and a large number of people are left behind. I believe that this is the crux of the matter, the point we need to discuss. Everybody should be clear about the degree of inequality an open, democratic society can handle. I therefore strongly advise that we place the term "equality" at the heart of the debate, keep opportunities equal and improve the access to opportunities where needed.

How closely is equality connected with education and democracy? Is education a key resource of our democracy?

Education is undoubtedly a key resource in general. Thanks to Germany's mandatory schooling laws, everybody has access to the education system. Nevertheless, the German system focuses on selection and places certain groups in society at a severe disadvantage. One could even say that

Education is undoubtedly a key resource in general.

poverty is handed down through the education system. Children from working-class backgrounds are six times less likely to graduate from high school and gain access to university education than children from privileged families. Given that education is indeed a key resource in the 21st century, the system must be adjusted to prevent further inequality of opportunities. Education offers everybody an opportunity to participate in economic growth and prosperity. However, this only works if everybody makes full use of the available opportunities and potential. This requires strong family and community ties, it requires social solidarity and, of course, the willingness and motivation to make the best of one's educational career.

INTERVIEW

THOMAS KRÜGER
PRESIDENT OF THE FEDERAL
AGENCY FOR CIVIC EDUCATION

How can we raise awareness of a complex subject such as sustainability? How can sustainability be communicated more effectively?

Sustainability must not become an issue of responsibility. Sustainability is an interdisciplinary subject that pushes boundaries and goes beyond environmental and energy issues. In my opinion, sustainability can also be reflected in the education sector. Sustainable education is education that provides general access and focuses on the educational potential of the general masses, not on cognitive standards and IQs.

I believe that sustainability is a bracket which allows for tolerance of differences in this society and facilitates the building of a common future.

Instead, it concentrates on the contribution to society that people can make in accordance with their potential. I believe that sustainability is a bracket which allows for tolerance of differences in this society and facilitates the building of a common future.

bpb itself is very active in promoting education among the educationally marginalized. You have, for instance, set up the "Zusammenhalt durch Teilhabe"¹ programme and are working with programmes such as "Berlin – Tag und Nacht." What motivates you?

The "Zusammenhalt durch Teilhabe" programme focuses on democratic deficits in rural areas. This is a highly underestimated trend that must be brought to the attention of policy-makers. Massive migration from the countryside to the cities leads to substantial deficits in rural areas, including democratic deficits. We are observing the dismantling of public infrastructure, with educationally marginalized people being left behind. Those who are successful in the educational field follow the brain drain to the cities. This requires adjustment, or stabilization, of democratic potential in rural areas. We have therefore implemented a democracy teacher training programme that has been completed by over 700 people.

The second point has to do with the principle that civic education is for everyone. If we want to get through to people who no longer read or attend classic instruments, such as seminars in educational institutions, we have to find other ways of reaching them.

¹ cohesion through participation

INTERVIEW

THOMAS KRÜGER
PRESIDENT OF THE FEDERAL
AGENCY FOR CIVIC EDUCATION

Of course, the best way is in their daily environment using popular media. Given our observation that educationally marginalized target groups tend to watch private TV channels and online web video formats, we are not shying away from contacting any potential cooperation partner active in these formats. "Berlin – Tag und Nacht" is an entertainment programme that is not associated with any political affiliation. But there's no reason why such a format shouldn't carry some political content. Before the last Bundestag elections, we set up a competition to focus discussions on the election. The option we were most comfortable with was the Wahl-O-Mat (election meter). During the hour the Wahl-O-Mat appeared in the programme, retrieval numbers shot up. Such formats give us low-threshold access to political issues. A second option are web video formats. Just recently, we addressed the concept worlds of Islam. On this subject, we worked

If it strives to be universally accessible, it must open up and follow innovative paths.

with influencers, in this case YouTube stars like Hatice Schmidt. Hatice is a beauty blogger who is married to a German husband and encourages her audience, especially young Muslim women, to engage with beauty issues. This cooperation was very successful because people don't only talk about lipsticks but also about religious and secular life issues: There were several hundred-thousands of downloads and countless comments.

Even the Salafists tried to get their message in. But we were prepared and had female scholars of Islam at hand to comment and launch a critical and controversial discussion. These are new civic education formats which allow us to address people who are otherwise unreachable. Any tax-financed education must ask the question whether it is really accessible to everyone. If it strives to be universally accessible, it must open up and follow innovative paths.

Which opportunities and challenges are associated with demographic change and migration to Germany?

This is a complex subject. Many consider migration as a major risk and believe that homogeneity and closing the borders is the answer. Economic trends and the globalization process have shown us that this is not the case – on the contrary. We now have to find ways of presenting migration as an opportunity. It is important to point out the success achieved by the children and grandchildren of former migrants who no longer identify entirely with their original culture but consider themselves Germans with different roots. There are various new associations, so-called "New German Associations," which we work together with.

These New German Associations show that their members stand by this country while offering a different perspective to society. Unfortunately, this perspective also includes the experience of discrimination, which is something we have to address.

It is a very good sign that lots of people with entirely different biographies are committed to Germany.

There is a lot we can learn from these associations. My favourite one is called "Deutscher Soldat e. V."² and is represented by a German-Lebanese man and a German-Afghan woman. Both are in the German army, serving in crisis regions and assuming international responsibility on behalf of Germany. I think it is a very good sign that lots of people with entirely different biographies are committed to Germany. Migration should therefore be described as a gain for society that creates prospects. Demographic change is not a risk, it is an opportunity for this country.

To conclude, could you give us a personal statement: For me, sustainability is ...

... primarily creating an education system that is accessible to everyone and provides everyone with opportunities to position themselves in our society. An open and democratic society that leaves no one behind, but nevertheless strives to uphold the democratic society as a fundamental principle.

² German soldier association



Changing the way we plan

New challenges for our cities



Cities worldwide are growing – especially in African and Asian countries. In Germany, three quarters of the population already live in cities. Instead of planning new cities, we are faced with the challenge of making existing cities, buildings and infra-structures sustainable. How sustainable are German cities today and what specific measures are being taken?

by SUSANNE EHLENDING and ROY FABIAN

In July 2000, the UN Secretary-General at the time General Kofi Annan saw a new age coming. “We have entered the urban millennium,” he said during a speech in Berlin. His statement still holds true today: Over half of the world population currently lives in urban areas. By 2050, this figure will probably be over two thirds.

In Germany, three out of four citizens live in cities or their densely populated outskirts. Major cities like Berlin, Hamburg or Leipzig, as well as smaller cities like Heidelberg, Jena or Münster are even reporting significant growth – a trend that will continue for the foreseeable future.

The consequences are extensive. Attractive cities offer better opportunities for education and careers, culture and care.

By contrast, shrinking communities are confronted with the often difficult task of increasing the quality of life of the people and using the decreasing population to help create new forms of urban culture. Of course they have to learn to adapt their infrastructure, which is often over-sized. The new influx is not only beneficial to the so-called “Schwarmstädte”¹: Its undesirable consequences include rising rents, housing shortages and a lack of childcare facilities, as well as urban sprawl, noise and pollution, or overloaded transportation systems – problems that in turn lead to questions of social justice and participation.

Foreign observers praise German cities for their committed citizens and vital urban communities, for cleanliness, a dense and reliable public transport network and the rather unique form of municipal company. “At the same time, German cities consume four to five times more resources per citizen than they are entitled to on average worldwide,” says Stefan Kuhn from the Local Governments for Sustainability network (ICLEI), completing the picture.

¹ swarm cities – cities that attract large numbers of young people between the age of 20 and 34

Given this overall situation, the United Nations' goal for sustainable development is therefore also relevant in Germany: "Make cities and human settlements inclusive, safe, resilient and sustainable."

Conceptual approaches for this exist. "German urban and land-use planning have long entailed the core concept of using resources efficiently and also facilitating developments in all regions," says Rainer Danielzyk, a professor at the University of Hanover, referring to spatial planning and construction law that expressly includes sustainable development.

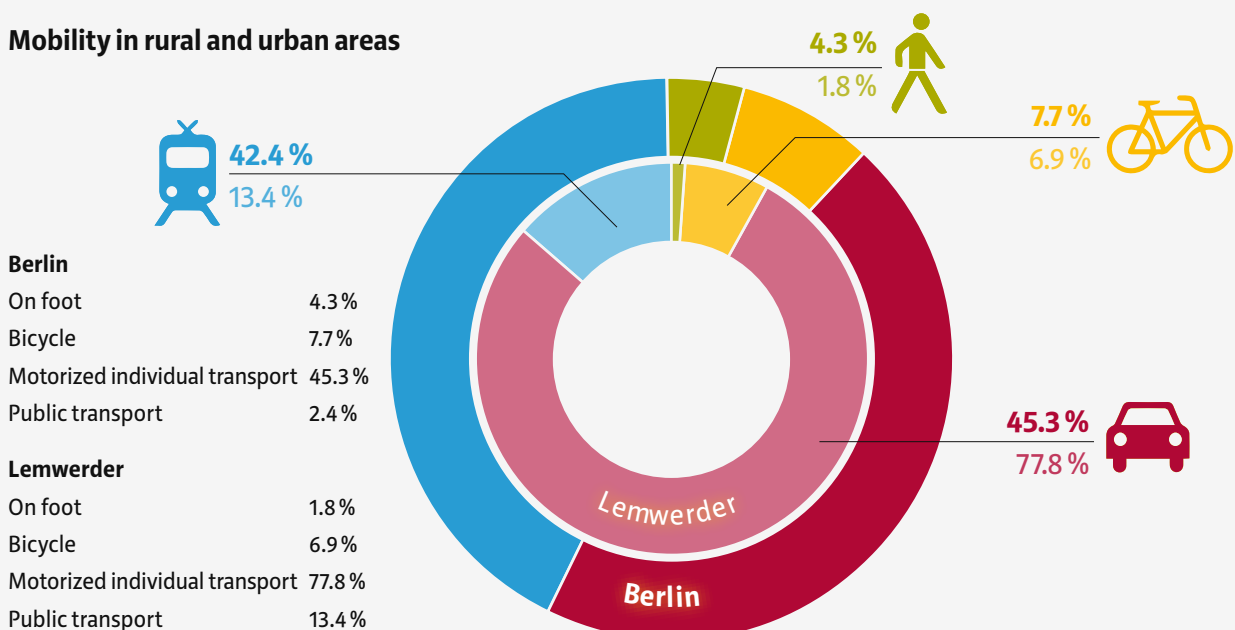
The fact that this requirement is not translated directly into practice can be shown based on the land use for new settlements and industrial estates. Another subject of ongoing discussions is urban mobility.

City of short distances: Mobility

Envisioned is the city or region of short distances, where everyday destinations are accessible reliably and quickly in what is called the environmental alliance – i.e. on foot, by bicycle or public and generally accessible transport.

The aim is to break up the dominance of the automobile. Almost three-quarters of the journeys in personal transport in Germany are completed by car. The effects on the environment are significant: Especially conurbations struggle with polluted air and street noise. As a result, over 50 German cities already have low emission zones where only vehicles with specific emission standard are permitted. In some places, such as Freiburg or Cologne, there are even entire districts that more or less exclude cars.

Mobility in rural and urban areas



In addition to this, the German Federal Government aims to reduce the contribution of motor traffic to climate change: It currently causes roughly 100 million tonnes of carbon dioxide equivalents, one tenth of overall emissions. These figures are to decrease by roughly 40 percent by 2030 and even to zero by 2050.

To achieve this goal, cities and municipalities will have to make major efforts – far beyond the necessary technical innovations. To date, technical efficiency improvements in energy consumption and exhaust emissions are regularly offset by the fact that people are driving more and more often – in ever larger and heavier cars.

As a result, specialists agree that the following two measures are necessary: Cars must become climate-neutral and switch to renewable energy sources. Unfortunately we have not achieved what is necessary and is required per political stipulation (1 million electric cars in 2020). Moreover public transport must be enhanced, as its per-capita emissions are far lower; in addition to this, trams or urban trains take at least three times less space per passenger compared with cars.

Already today, buses, underground and suburban railways and trams often replace private cars. In major cities, almost every second inhabitant uses them at least once a week. What now needs to happen is to combine public transport with walking and cycling as well as bike and car sharing. A look across the borders of municipalities is encouraging.

For example, the tram network in Karlsruhe was connected to railway routes in the surrounding area, to make it easier for commuters to travel into the city – a model called “Tram-Train” that is now operating, among others, in Saarbrücken and Kassel.



I fly as little as possible, instead I use other means of transport or take the bike.

HARALD WANGER
Student

Sustainable mobility in Germany has many facets: Cities like Hanover, Dresden, Leipzig or Berlin are making definite progress, while others are lacking – besides the financial resources – detailed provisions for future mobility. On the other hand, Jürgen Gies, mobility expert at the German Institute of Urban Affairs, believes that they are important. “The less freedom there is for interpretation, the more pressure there is to act.” However, he continues: “It is still more convenient for many to drive to work by car than to squeeze into an overcrowded regional or underground train.” In addition, expansion of public transport capacities is urgently needed.

Promoting walking and cycling as modes of transport is equally important. That means not only expanding corresponding route networks, but also coordinating transport and settlement planning. New forms of buildings and housing can create multifunctional quarters – and keep distances short.

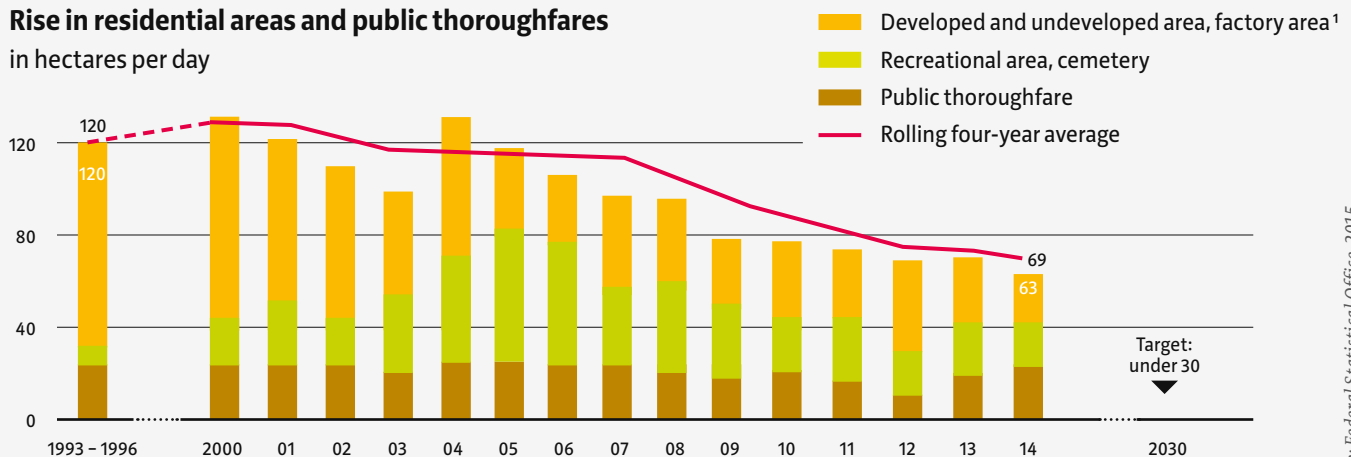
The compact city: Sustainable construction and housing

Medieval cities in Germany show how attractive sustainable construction can be. The beautiful half-timbered houses, once built of just wood and clay, have survived for centuries.

Of course, most German cities do not look like these doll's houses – many buildings were constructed after the Second World War. Urban life itself has also changed: While in the past people could walk everywhere, the distances have become greater today. This is due to the sheer size of the cities, as well as the division of living and working, that was considered as modern urban development internationally in accordance with the Athens Charter from 1933, but pointed in the wrong direction altogether. Today, the attractiveness of cities is often revealed in the mixture of usages and in closely-meshed diversity.

The residential space per person continues to increase. Many elderly people justifiably want to stay in the homes they once built for a whole family. The number of single households in major cities is also growing, which statistically increases the residential space per capita. The detached home in the countryside remains the dream of many Germans. This results in even more estates of new buildings on greenfield, industrial estates are also included in agricultural spaces. As a result, urban sprawl is increasing – far less than years ago, but clearly in the wrong direction. The German Federal Government aims to change that and decided in its Sustainability Strategy to reduce the expansion of built-up area and transport infrastructure to under 30 hectares per day by 2030. In 2002, it was 129 hectares per day, and is currently 70 hectares per day.

Rise in residential areas and public thoroughfares
in hectares per day



¹ Excluding mining land

Accordingly, it is complying with a recommendation of the Sustainability Council. The 30 hectare target symbolizes the city of the future: more colourful, compact, attractive, sustainable. This target affects all spheres.

Anyone implementing this well in their city is protecting the environment, is enhancing financial self-determination of the municipality, is promoting social cohesion, facilitates flexible forms of living, is improving inner cities and makes the municipality more attractive.

Amendments to construction law also serve this goal. The German Federal Government aims to create a new category, “urban areas.” Denser and higher construction is to be permitted there. The noise protection requirements were also lowered to bring working and living closer together.

“Densification,” building on undeveloped land within the city limits, is the goal. Wastelands or former military sites can be recycled in this way. From a purely mathematical perspective, over 100,000 hectares are available for this purpose nationwide. However, supply and demand do not always match up: Wherever people want to live, i.e. in major cities, the spaces are often already almost used up.

A model residential area is being built on a wasteland in the heart of Berlin: In the Bautzener Straße district, the apartments are small and use state-of-the-art forms of renewable energy. For example, a good part of the energy for heating is obtained from a sewage canal that runs

alongside the property. The roofs are covered with a layer of earth so thick that even trees can grow on them, and there is a strip of green behind the buildings that links the local park with green spaces in the neighbourhood.



“In rapidly growing cities, the key question is how to create space for housing. In this context, we must pay particular attention to socially responsible development of existing buildings, combat gentrification and find good, modern and cost-effective solutions. Preservation and creation of socially acceptable structures is anything but a no-brainer, it takes a lot of negotiating – with citizens and investors.”

DR. ULRICH MALÝ
Mayor of Nuremberg

1.1 million additional apartments could also be built by adding storeys to roofs, as determined recently by the Technical University of Darmstadt. Repurposing old buildings instead of building new ones would be in line with the thinking of architects like Daniel Fuhrhop. He caused quite a stir with his book “Verbietet das Bauen” (Ban Building). Fuhrhop argues that “grey” energy is built into new buildings in the form of concrete. However, to ban things in a pluralist and federal society with municipal planning sovereignty, an extremely broad consensus is needed – especially since sustainability also means that things should be socially consisting.



SUSTAINABILITY
AWARD FOR
BUILDING
WINNER 2015

General refurbishment of and adding another storey to a residential high-rise building in Pforzheim

An aesthetic sustainability-driven interdisciplinary general refurbishment concept was developed for the residential high-rise building constructed in the 1970s in the centre of Pforzheim. Photovoltaic modules and a small wind turbine on the roof generates renewable electricity from in-house sources. Using recyclable materials and foregoing composite structures reduced the grey energy required to generally refurbish and add an additional storey to the residential high-rise building. The moderate rent adjustment is also impressive, and is offset by energy costs that are 10 percent of the previous level, with a significant increase in comfort.

www.dgnb.de/dgnb-ev/en



All nominees for this year's DGNB Award are united by sustainability, innovation and design quality and demonstrate in an exemplary fashion how buildings of different use types can put people first and contribute to their quality of life.

MARTIN HAAS
Vice President of DGNB

In Germany, the existing buildings must be fundamentally prepared for energy efficiency and modern energy standards. After all, housing in Central Europe means heating for at least six months a year. This results in roughly one quarter of all energy-related greenhouse gas emissions.

The German Sustainable Building Council – an initiative of architects, civil engineers, project developers and buildings companies as well as manufacturers of construction products – is taking a new approach here. It sets ambitious standards for new buildings and honours the best practical examples – a partnership approach that drives “Made in Germany” forward and advances creativity and innovative thought. The active house – a building that generates more energy itself than its inhabitants consume – is now a reality and these standards are being applied more and more in urban development. Particularly forward-looking projects are recognised each year by the German Sustainable Building Council (DGNB).



SUSTAINABILITY
AWARD FOR
BUILDING
WINNER 2016

Schmuttertal-Gymnasium Diedorf

The Schmuttertal-Gymnasium secondary school in Diedorf is a building with a plus energy standard and a modular design that facilitates adaptation to changing didactic concepts. The wooden building uses a consistent digital data chain from planning and manufacturing through to assembly, offering an efficient and rational manufacturing process with a very short construction period. The wooden structure means that a renewable construction material is used, which requires little grey energy and facilitates a good CO₂ balance. Use of high-efficiency building services equipment and a photovoltaic system with a rated output of 440 kWp allows the building to generate more energy than is consumed.

www.schmuttertal-gymnasium.de



A proactive municipal information policy in Delitzsch helps enthuse citizens for the goals of a sustainable city and to actively involve them in urban development processes.

DR. MANFRED WILDE
Mayor of Delitzsch

A lot is happening in the housing sector, too, as is shown by the example of the Märkisches Viertel district in Berlin. Many companies in the housing sector apply the “Sustainability Code” and are modernizing their procedures in this way.

Cooperatives like the Märkische Scholle Housing Cooperative in Berlin are another example. The non-profit cooperative only passes part of the modernization costs to the tenants. The remainder is cross-financed. As a result, the residents pay hardly more than before, but live in excellently refurbished buildings supplied almost exclusively with electricity and heat from renewable energy sources.

By contrast, people who live in rural areas or small cities often feel left out. They complain about poor medical care and a lack of educational and employment opportunities. There are considerations about providing rural areas in East and West with a solidarity surcharge.



In the age of climate change and scarce raw materials, a circular economy in the construction sector is not only an ecological necessity, it is also economic reason. Our built environment must also fulfil sociocultural functions. For example, besides qualities like space-efficient layouts, pollutant-free construction materials and energy-efficient building envelopes and technology, housing is about homes. A sustainable urban district is socially and economically stable, it is popular and offers a high quality of life. What matters is a good infrastructure, sustainable mobility and the social mix. In the end, people only identify with their area if it is a place worth living in.

PROF. DR. LAMIA MESSARI-BECKER
Professor of Building Technology and Building Physics,
University Siegen

The green city: The role of nature

Another critical area as part of the described revolution is urban nature. The quality of life in cities depends significantly on the green infrastructure. Green spaces, urban trees and urban woods prevent heat stress in times of climate change and buffer heavy precipitation. They also clean the air, absorb noise and help generate new drinking water. Urban nature is also a meeting place and recreational area – it can even help supply food in the form of small or shared gardens.

As a result, Hanover and Berlin have highlighted their value in the form of corresponding strategies, and roughly 100 municipalities discuss nature conservation matters in the “Municipalities for Biological Diversity” alliance. The German Federal Government also regularly promotes projects related to urban wilderness.



In spite of this, a report by the research project “Natural Capital Germany” finds that many municipalities do not yet factor in the ecosystem benefits of urban nature, or not sufficiently enough. In order to prevent the proliferation of cities into the surrounding areas and to reduce traffic, Ingo Kowarik, Professor of Ecology at the Technical University of Berlin and lead author of the report, sees inner city densification as a reasonable approach. “However, it reaches its limits when there is no way for people to benefit from the many positive effects of urban nature.”

The flora and fauna also suffer. An astonishing number of species have found ecological niches in cities. In view of increasingly stripped down landscapes, urban nature’s role for biodiversity must not be underestimated. The goals of the German Sustainable Development Strategy in this area have already been missed significantly: For example, in settled areas, the numbers of selected bird species is almost one third below the target figures for 2015.

Against this background, urban planners are focusing increasingly on what is known as double inner-city development of urban green spaces and the built environment. Undeveloped land is designed not only in terms of construction, but also with regard to the green infrastructure. In the Ruhrgebiet region, 20 municipalities are converting former brownfield sites to form the Emscher landscape park. The aim is to upgrade residential and industrial estates by connecting them with green areas and open spaces. At the same time, the Emscher river system, once notorious as Europe’s

biggest sewer, is being renewed naturally – a measure that should also pay off economically: According to analyses, the costs of 4.5 billion euros are offset by macroeconomic effects worth more than twice that amount.



Management of sustainable urban development requires the awareness and willingness to implement sustainability seriously and consistently in our daily activities, in committees, at an employee level in administration, in politics.

DR. KURT GRIBL
Mayor of Augsburg

In addition to such major projects, roads and buildings are being integrated in urban nature.

Accordingly, every sixth German major city has subsidy programmes for green roofs. The potential is immense, but has only been partially utilized to date. Even though no one disputes the fundamental importance of urban nature, says Ingo Kowarik, it is still largely perceived as a cost factor. “The understanding from numerous model projects that investments in nature also generate economical returns has not been acknowledged everywhere.”

However, many are already involved in urban gardening, community-supported agriculture or green volunteering. That shifts the focus to another dimension of sustainable development in urban spaces: civic participation.

Mayors' dialogue "Sustainable Cities"

At the invitation of the German Council for Sustainable Development, Lord Mayors and political representatives of various cities in the Federal Republic of Germany convene, and those in attendance are especially committed to the notion of sustainability and to dialogue on the strategic issues facing the "Sustainable City". In particular, the participants swap notes on their own approaches as local and state officials and tackle the issue of how local sustainability policy can gain in standing and importance in federal policies.

The Lord Mayors have agreed on strategic cornerstones for sustainable development in municipalities² as commitments and recommendations as well as a basis for calls for action by policymakers. The German Council for Sustainable Development has facilitated this dialogue process.

EXTRACT FROM THE STRATEGIC CORNERSTONES:

We, as Lord Mayors, hereby declare our commitment towards assuming holistic responsibility for the following:

1. Sustainability must be conceived by people: concrete, spirited, hands-on and with a perspective, and in conjunction with people who are increasingly embracing the notion of sustainability. For this reason, we rely on dialogue, participation and support for the development of capacity building aimed at assuming responsibility, and we give sustainability a face through concrete local projects.
2. Sustainability entails not consuming more resources – including financial ones – than are regularly renewable. For this reason, we advocate a balanced budget and the reduction of debt for the benefit of generations to come, and we call for the municipalities to be given structural relief.
3. Sustainable development requires integrating departments and factual issues into a wider picture. For this reason, we give top priority to sustainability and integrate this cross-cutting task into policies and administration.
4. Sustainable development requires that all the state levels act in concert and work hand in hand on a level playing field. The adoption of the United Nations Sustainable Development Goals (SDGs) and the multitude of sustainability strategies in federal concert place new and significant demands on the consultation, coordination and participation among the various levels. We want to take part in this and we believe that a sustainability goal for cities will result in a crucial strengthening of the role played by the municipalities.

² www.nachhaltigkeitsrat.de/fileadmin/user_upload/dokumente/publikationen/broschueren/Brochure_Strategic_Cornerstones_text_No_49_August_2015.pdf

City of people: Civic participation and civic responsibility

“Democracy is based on an interaction between citizens and politicians, so that public institutions answer to us, so to speak. We can reach them and they can reach us,” said German philosopher Hartmut Rosa recently. “But this expectation is increasingly lost. That is why citizens so often protest against political decisions.” Serious local participation of citizens in their own living environment can therefore also be a remedy for the political crisis democracies are currently experiencing. At the same time, it can also advance sustainable development, according to Stefan Kuhn from the ICLEI network of cities: “Only if it is clear at a local level that citizens’ actions result in visible and desirable changes, sustainable development will become something positive and deliberate, and no longer remain an abstract concept.”

The city of Freiburg shows how that can succeed. Citizens can get active on a portal designed specifically for this purpose and publish their ideas for the city’s future. The associated financial and sustainability reporting is unique throughout Germany. It shows which urban activities contribute to achieving the sustainability targets and how financial resources are used. Freiburg is also one of the municipalities with a civic budget. Citizens can decide on part of the finances.

There are well-known positive examples. The city of Ludwigsburg holds future conferences to involve citizens in decision-making processes. Visions are developed together for the city, which is not only good for the citizens, but also for the administration: It learns to think beyond its own departmental boundaries and plan and act holistically. Berlin does not simply sell public land to the highest bidder, it rewards the best development concept.



Our intergenerational Sredzki 44 residential project involves sustainable construction and wheelchair access. We as occupants have taken that into our own hands. In the future, all houses should be built like that.

DANIELA HERR
Occupant of Sredzki 44

In the many hundreds of projects and initiatives recognized by the Sustainability Council, citizens take on responsibility: They initiate campaigns for sustainability, for avoiding food waste, to protect nature, they found energy cooperatives to generate their own electricity or join forces to make their vision of communal living a reality.

BEST PRACTICE

"City of the Future" contest

Quiet cars that do not emit any exhaust fumes. Healthy vegetables growing on rooftops. New building concepts that gain climate-friendly energy from waste water. There are many ideas for the city of the future to improve life. The "City of the Future" contest aims to discuss them with citizens, develop joint visions for the future and test them in pioneer cities.



The initiative of the German Federal Ministry of Education and Research is looking for models for the future of cities in 2030. Citizens, local politicians, scientists, administrations and representatives of the private sector are working on visions in three competition phases, with the finalists facing up to the test under realistic conditions from 2018 on. Thematically, the concepts submitted deal with matters of employment security, affordable housing, climate adjustment, sustainable mobility or power supply. The Federal Ministry is subsidizing the competition with 1.75 million euros via the FONA measure (Research for Sustainable Development).

www.wettbewerb-zukunftsstadt.de/infos/english.html

ZEITZEICHEN – THE GERMAN LOCAL SUSTAINABILITY AWARD

As part of the Netzwerk21 Congress, the award honours outstanding local activities in the following categories: initiatives, companies, municipalities, youth, education for sustainable development and communication and international partnerships. In particular, the award recognizes work already completed that will continue to have an impact in future. The aim is to organize a new shared responsibility and create strong stimuli for social transformation.

www.netzwerk21kongress.de



One last example of the transformative power civic commitment can have: In the city of Berlin, a river polluted with wastewater is to be converted to baths. The channelled river must be cleaned with a natural constructed wetland, the banks are to be turned into an urban meeting place, permitting new uses. Ecology, social participation and urban uses are to be united to form a vital whole: simply sustainability. One hundred years after stony Berlin turned away from nature, this civic initiative wants to restore urban nature to its rightful status.

Where are we now?

Achievements and required adjustments

In summary, what is the status of sustainable urban development in Germany? Projects and initiatives have set many things in motion. Municipalities compete to be Germany's most sustainable city. They also discuss the topic in committees like the Association of German Cities or international networks. Leading mayors have rooted sustainability in their leadership structures.

Especially in financial matters, there is still a significant need for adjustments between the Federal Government, state governments and municipalities, says Rainer Danielzyk from the University of Hanover.

"Municipalities often justifiably complain that the Federal Government and state governments give them tasks without providing appropriate financial and therefore also personnel resources."

He also warns against universal remedies. "It always depends on regional factors." He believes that a lot comes down to attitude, on the part of politicians, administrations and the citizens. "In everyday operations, this can be improved on."



Municipal administrations face long-term structural changes. Even more than previously, we must question what we are doing and how we are doing it. What will be the priority for sustainability in future? What needs to be put to test? Nothing must be ruled out.

DR. FRANK MENTRUP
Mayor of Karlsruhe

Accordingly, sustainability must first become the norm for municipal action. As a result, what the international expert group reported for German sustainability policy overall in the 2013 peer review still holds true: The progress is impressive and commendable. "It would be wrong, however, for Germany to be complacent with what has been achieved so far."

Other publications by the German Council for Sustainable Development

- Strategic Cornerstones for Sustainable Development in Municipalities

BEST PRACTICE**The world's largest passive house settlement:
Heidelberg Bahnstadt**

Since 2012, a new urban district with a high ecological quality of life has been under construction on the grounds of the former freight train station and shunting yard.

Apartments for roughly 5,500 people and business space for roughly 7,000 jobs are being built on a total area of 116 hectares. All of the buildings meet passive house standards. Thermally-insulated building envelopes ensure a comfortable indoor climate that can be regulated by heating up or cooling down. The district is heated fully via renewable district heating. The passive houses consume less than half as much CO₂ as conventional buildings. The Heidelberg urban development project is one of the largest passive house projects nationwide. The development focuses on an urban mix and short distances within a vital city quarter: Besides housing, playgrounds and green areas, it also includes retail outlets and restaurants, a civic centre, a school, multiple childcare facilities, scientific institutions and cultural facilities.

www.heidelberg-bahnstadt.de/en



© Bahnstadt; Christian Buck



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Rural districts and urban districts in Germany

- below 10.0
- 10.0 up to less than -6.0
- 5.0 up to less than -4.0
- 4.0 up to less than -1.5
- 1.5 up to less than 1.5
- 1.5 up to less than 4.0
- 1.5 and above



Dr. Dieter Salomon

MAYOR OF FREIBURG IN BREISGAU

*“We aim to be
climate-neutral by 2050.”*



INTERVIEW

DR. DIETER SALOMON
MAYOR OF
FREIBURG IN BREISGAU

In 2012, Freiburg was chosen as the most sustainable large city. What are the guidelines of sustainability policy in Freiburg? Where is Freiburg leading the way, and what are the greatest deficits or barriers to implementation?

Freiburg has a long tradition of civic involvement in the environmental movement, which influenced municipal politics at an early stage. More recently, we signed the Aalborg Commitments for municipalities in 2006, and agreed on 60 sustainability goals in 12 political areas in the municipal council in 2009. Those responsible in politics, administration and municipal companies have therefore combined their visions for a sustainable city in a joint guideline that serves as a basis for political action.

“Less traffic, but better mobility is also one of our sustainability goals.”

Freiburg is now known beyond Europe's borders as a model city for climate protection – we had an advanced climate protection policy before the topic was even on political and business agendas. Freiburg is also known outside the region for its transport policy – in particular for cyclists.

Surveys of Freiburg's citizens reveal that many of them are very satisfied overall with life in Freiburg and support the city's sustainability efforts. Freiburg is a growing city, so we need to build more housing. It is a challenge to do so in an environmentally friendly and socially responsible way.

Which role does mobility play in sustainable urban development and what approaches are you taking?

Freiburg turned away from a policy focusing on individual transport to promote environmentally friendly modes of transport instead.

Less traffic, but better mobility is also one of our sustainability goals. Our concept, a city of short distances, requires strong district centres covering all of the basic needs in the neighbourhood and promoting urban development at the public transport axes. 27 percent of all journeys in the city are made on bicycles, and our goal is to increase this percentage to over 30 percent. To achieve this, we are modernizing and expanding the network of bicycle lanes. At the same time, motorized individual transport is to be rerouted outside residential areas with traffic calming measures and by concentrating traffic on transport axes. In addition to this, Freiburg has built a public transportation network that provides virtually all citizens with a stop no more than 400 metres from their homes.

In the 1980s, Freiburg decided to expand the public transportation network and developed an "Environment Ticket" (now "Regional Ticket") in cooperation with the entire region. The ticket enables travel without restrictions from the French border to the Black Forest.

INTERVIEW

DR. DIETER SALOMON
MAYOR OF
FREIBURG IN BREISGAU

The German property market is booming. On the other hand, affordable housing is needed more urgently than ever. How is socially responsible and environmentally friendly housing possible given the high-priced properties and rents?

There is no question that we need more affordable housing in Freiburg. Of course, it is extremely difficult to implement social housing in a high-priced situation as is currently the case for the land prices and rents in Freiburg. The long-term plan and the recently established project group for new residential building areas are two instruments for developing new housing. They take two different directions: First of all, we are establishing a strategic urban development framework plan to develop the city of Freiburg in the next 15 years in the long-term plan. Second, the project group is responsible for short-to-medium-plan implementation of five specific

I personally have committed to help reach Freiburg's sustainability goals by founding the sustainability management office in my department in 2011.

housing projects. As Freiburg will also continue to grow in the years to come as a "swarm city," according to the "Housing Study" compiled in 2014, we will probably need 1,000 apartments a year by 2030, to meet demand and curb the price increase. However, apartments are now also needed for former refugees who are to be integrated and find a place in the urban community once their applications are approved. As a result, the demand is probably even higher.

How can our cities grow sustainably? Which challenges does Freiburg face?

Fundamentally, we will plan and build more space-saving housing in future with a higher construction density, but in spite of this we now also have to build a district on new land to meet the demand for housing. As a strategic overall concept, the long-term plan mentioned will still serve as a guideline for socially responsible and environmentally friendly sustainable urban development. We are taking sustainable internal development, recreational space and long-term development of Freiburg into account in terms of built space and recreational space. That means that we ask ourselves questions on the city as a whole in advance. Where can development be condensed? How can we develop recreational spaces more effectively? How do we integrate new districts? This planned approach is particularly important as few spaces are available to us where we can actually build due to natural restrictions such as conservation areas and forests.

INTERVIEW

DR. DIETER SALOMON
MAYOR OF
FREIBURG IN BREISGAU

How do you communicate sustainability to the citizens? How do you generate acceptance?

Incorporating citizens is our top priority in the sustainable urban development process. For this purpose, we are building structures and creating an appropriate culture, for example using events, workshops, councils or working groups. We have the Sustainability Council established in 2008, comprising 40 representatives from science, society, business and politics to bring together as broad a spectrum of Freiburg's society as possible in the area of sustainability. Of course, these are multipliers in the urban community who create acceptance.

How can civic commitment be used for sustainable urban development?

With our sustainability goals, we aim to involve the population in our projects at an early stage. Decisions with the involvement of and a high acceptance among the population are definitely more sustainable than constant government top-down that ignores the wishes of the citizens. For example, since 2008, we have been giving citizens an opportunity to participate in the city's budget planning in the participatory budget project.

In the end, participation makes citizens feel they are being taken seriously and get involved in urban projects of their own accord. And civic commitment is what holds the community together.

Incorporating citizens is our top priority in the sustainable urban development process.

What can politics do for a sustainable city?

Of course, a defined contact is needed in municipal administration, a department or a coordination unit. I personally have committed to help reach Freiburg's sustainability goals by founding the sustainability management office in my department in 2011.

It is responsible for overall strategic management and ensures that the sustainability goals are implemented both within the administration and through external cooperation. It has now been scientifically proven that a central foundation in administration is necessary to advance sustainable development, for example via research by Leuphana University Lüneburg and the Bertelsmann Foundation.

INTERVIEW

DR. DIETER SALOMON
MAYOR OF
FREIBURG IN BREISGAU

What role do urban partnerships play for sustainable development?

Global problems can only be solved globally. Our partner cities are interested in our strategies for climate protection, nature conservation and sustainability. Accordingly, we already cooperate with Isfahan (Iran) in the solar sector, and Freiburg built the largest photovoltaic system in Italy with its Italian partner city of Padua. In our partner city of Wiwili in Nicaragua, we help with sustainable projects that promote the people's belief in their own strengths and abilities to improve their difficult living conditions in the long term. Partnerships are important. After all, we live in one world and can learn a lot from one another.

The goal of sustainability is the most important key to a positive future, for environmental responsibility, economic growth and quality of life in the cities.

What have you planned for the future in sustainable urban development?

Like many other cities worldwide, Freiburg is on the way to being a sustainable city, and therefore has not reached its goal yet. The goal of sustainability is the most important key to a positive future, for environmental responsibility, economic growth and quality of life in the cities. Our concrete goal is to achieve climate neutrality by 2050.

All of that can only succeed if politicians incorporate active citizens and these citizens also make the goals of sustainable development their own goals. That is why there is a balance between sustainable thinking and actions, acceptance and participation.

To conclude, we would like to end the interview with a brief statement. Please complete the following sentence: For me, sustainability is ...

... driving environmental, economic and social goals forward equally and on the basis of a generationally-appropriate financial policy. That is why sustainability is a cross-sectional task that affects politics and administration and leads to integrated action.

BEST PRACTICE

Essen – European Green Capital

Essen is the “Green Capital of Europe 2017”. This title granted by the European Commission recognises the evidently high environmental standards and ambitious goals for further improvement of environmental protection and sustainable development.

This was based on Essen’s status as a role model for many cities in Europe, as well as the role of the city in the socially acceptable transformation from a city of coal and steel to a green city.

PILOT PROJECTS OF THE CITY AND REGION:

By restructuring the Emscher river system, the Emscher Society initiated one of the largest infrastructure projects in Europe with numerous technical innovations: The Emscher, a river with a major influence on the region, is to be transformed from an open sewage system to a remediated body of water by 2020.

As part of the municipal action programme “**ESSEN. New Paths to Water,**” 150 kilometres of walking and cycling paths have been built in the past ten years. That helps the city grow together. Green urban development drove urban development in the past ten years. New green spaces, water spaces, walking and cycling paths have connected the city and the region and were also the starting point for adapting to climate change. New parks and lakes were created, as was the university district.

The 100 km **fast cycle lane**, which will in future bring the Ruhr cities even closer together, is a forward-looking model of sustainable mobility in conurbations.

“**Bathing in the Ruhr**” is to be made possible again, and allow citizens of Essen to swim in certain places in Lake Baldeney and/or in the river Ruhr again.

www.ec.europa.eu/environment/europeangreencapital/winning-cities/2017-essen





Changing our habits of consumption

Our decisions for a globally
sustainable consumer society



**Sustainable consumption may be in vogue,
but sustainable consumption is far from
being a dominant force in the market.**

**How can citizens contribute to sustainable
development and what framework
conditions help them do so?**

by ANJA ACHENBACH and SUSANNE WOLF

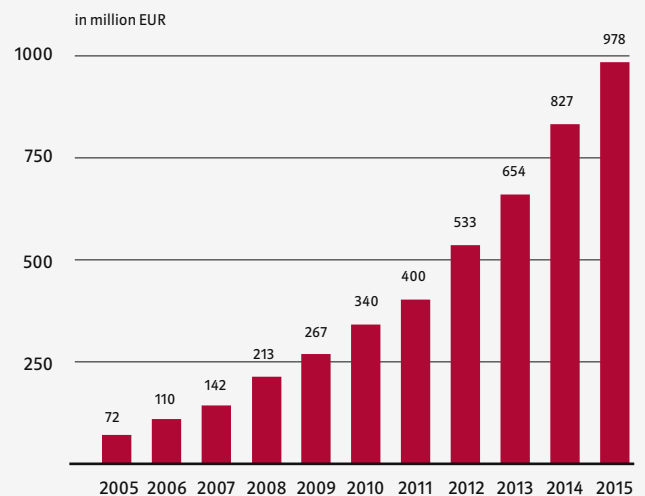
Today, consuming sustainably seems easier than ever. The organic sector is booming in Germany; products that used to be confined to the bottom shelves now take up prime shelf space in every conventional supermarket and discounter. Especially in trendy neighbourhoods in large cities, organic supermarket branches are popping up all over the place, like the Market Hall at Marheinekeplatz in Berlin-Kreuzberg: Bio Company opened its doors right opposite the west exit, while Alnatura is located at the northern end and other organic markets are nearby. They leave nothing to be desired for sustainably-minded consumers.

Sustainable consumption is obviously fashionable, and organic produce has grown in popularity with consumers in the past 15 years: According to the

Consumers' Choice study by GfK¹ on behalf of BVE² from 2013, over one quarter of the German population prefers sustainable foods and pays special attention to organic quality, regional origin, animal welfare and fair trade. Roughly one quarter of the largely female consumers is also willing to spend more for organic foods. Almost all providers have responded, even conventional supermarket chains and discounters offer organic lines and fair products to benefit from the green boom. "Organic" now includes all kinds of everyday objects, not just food.

Fair trade is booming

Trend in fair trade turnover in Germany



Source: Federal Ministry of Finance

¹ Consumer Research Society

² Federation of German Food and Drink Industries

Trendy – but far from mainstream yet

When shopping, roughly 60 percent of Germans pay attention to whether products are sustainable. Most of them base their decisions on labels, for example fair trade or organic labels, or read the product description.

However, sustainable consumption does not dominate the market yet. At 4.4 percent of the total food sales, the organic sector in Germany is still very small. Wide ranges of products are primarily available in cities, and even there, they are not available everywhere. The German population is also divided into two halves in terms of conscious sustainable consumption: One half is open to at least one aspect of sustainability, while the other half is virtually disinterested. Of the roughly 50 percent of consumers who are at least partially sustainability-conscious, only just under ten percent reach a comprehensive level, i.e. are aware of all aspects of sustainability. Even a high level of awareness won't be enough at times – many well-to-do consumers simply consume too much. A study by the Umweltbundesamt (UBA, Germany's main environmental protection agency) in summer 2016 found that people with higher incomes consume significantly more resources and energy than less well-off households.

“Higher incomes often finance heavier cars, larger apartments and frequent flights – even if the people are otherwise environmentally friendly in their everyday lives. But these big points in particular have the greatest influence on our ecological footprint. Buying organic food or conscientious waste separation cannot offset it,” explains UBA President Maria Krautzberger.



I avoid buying clothes from fast-fashion chains and try not to follow any fast trends – I buy what I like, good quality, classic, preferably vegan.

BEATRICE ERNESTI
Student

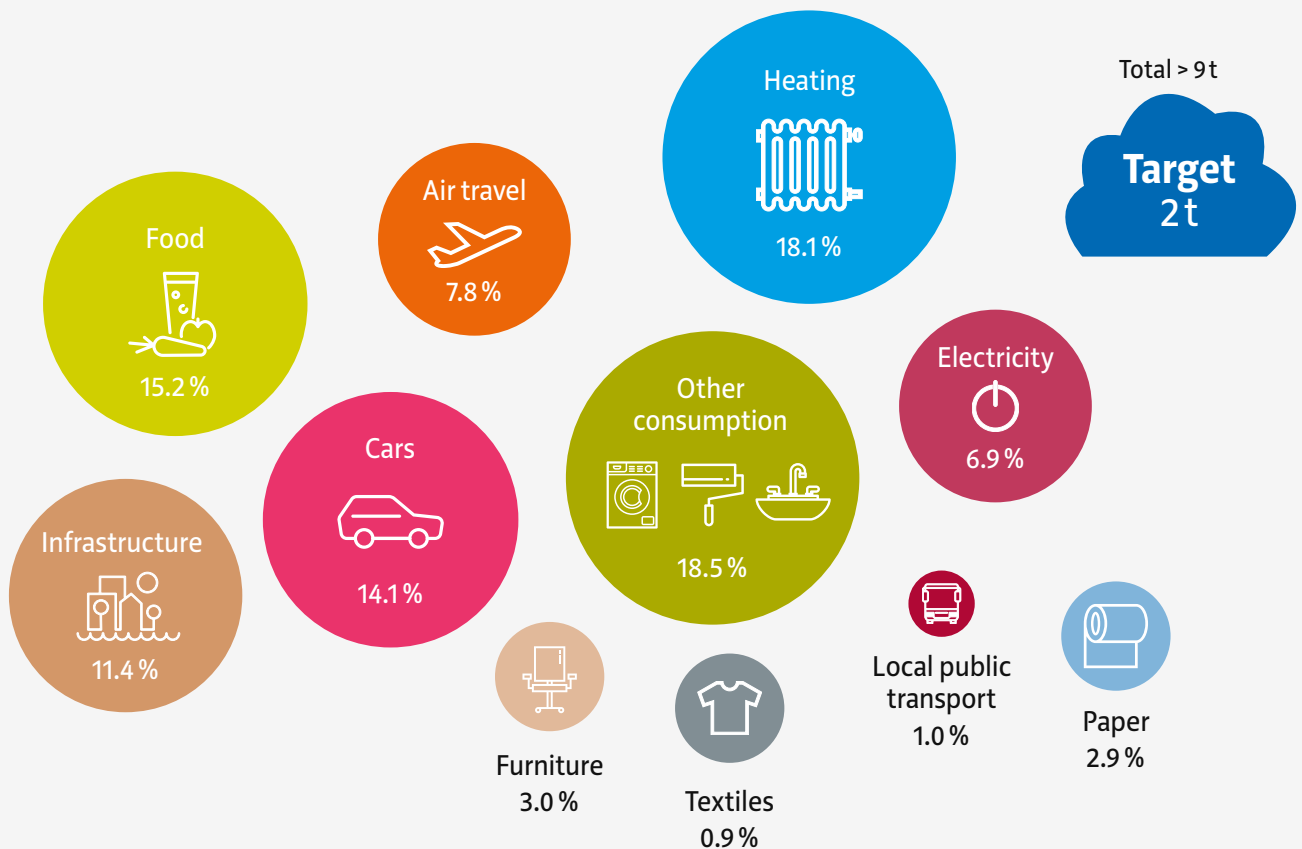
Prof. Dr. Lucia Reisch, consumer researcher and member of the Sustainability Council, emphasized: “Consumption by private households accounts for roughly one quarter of the greenhouse gas emissions in Germany. Food, means of transportation and energy consumption – for example for heating – have a major influence. Anyone who actually consumes sustainably can significantly reduce the CO₂ emissions in their own sphere. This includes buying products with labels, but also a fundamentally different approach to consumption and conscious avoidance of consumption.”

The annual ecological footprint in Germany is 11.8 tonnes per capita – two tonnes would be climate-friendly, to keep global warming under two degrees Celsius as agreed by 194 countries in Paris.

According to a GfK study on behalf of the Sustainability Council, routines and higher prices for sustainable products are the major barriers preventing sustainable consumption. Consumers prefer to purchase what they know, according to 38.6 percent of those surveyed. 37.2 percent of respondents believe that sustainable products

are more expensive than conventional ones. In fact, switching to eating less meat and more vegetables and fruit often offsets the additional costs from purchasing organic groceries. And the real price we pay for supposedly “cheaper” foods from conventional production is actually far higher: Environmental effects like soil compaction and erosion, pesticides, nitrate pollution and the climate change that is further accelerated by using fertilizer and animal husbandry – agriculture is responsible for significant greenhouse gas emissions – incur high long-term costs.

CO₂ pollution by product group



The core of the problem is that external, medium- and long-term negative effects are not represented in the purchase price. Dr. Michael Bilharz from the Federal Environment Agency (UBA) is certain: “Sustainable consumption options must be more attractive, more affordable and easier to implement than non-sustainable options.” As a result, one option currently under intense discussion is the introduction of a global CO₂ tax that is included in the price: According to former President of Germany Horst Köhler, a global CO₂ price would “start a global race in the laboratories and think tanks of companies and universities to develop the best solutions for a climate-neutral economy.”



*I am proud of the fact
that I don't throw out any food
and eat everything I buy.*

SEBASTIAN QUIROGA
Salesman

For foodstuffs like cocoa, coffee or bananas that are imported from countries in the south, labour conditions must also be taken into account in addition to the CO₂ balance: For example, cocoa is largely grown in Ghana and the Ivory Coast. In Ghana, cocoa farmers earn roughly 80 cents a day, with over two million children working on cocoa farms in West Africa. By contrast, fair trade products guarantee comparatively better working conditions. Child labour is prohibited.

Meat or fish – or chick peas?

When communicating on sustainable consumption, we must focus on the major contributors: consumption of meat and heating, housing and mobility. Minor changes in these areas can achieve the greatest positive effects. For example, we can act sustainably by sourcing electricity from renewable energy, using intelligent forms of mobility, flying less (and when we fly, offsetting the climate gases caused by donating to certified climate protection projects). It is also sustainable to choose certified, durable, repairable and high-grade goods. That quickly reduces our ecological footprint from individual consumption to an environmentally friendly value.

Consuming a lot of meat in particular pollutes the environment and the climate. It highlights a series of systemic connections illustrated by the example of industrial production. Germany remains a country of meat eaters: Since 2011, the per capita meat consumption has declined slightly, from 61.6 kg to 60.3 kg, while nine percent of the population are vegetarians. The total meat consumption, including feed, industrial use and losses, is 88.3 kg per capita (2014). Factory farming not only requires the use of antibiotics, which can lead to resistance in humans, but also of chemical fertilizers and pesticides. These in turn pollute soil and water. Soil in Germany is highly polluted with phosphorus, nitrate and nitrogen, with negative consequences for people and the environment – not only in Germany, but also for the oceans.

Organic farming plays a key role as it preserves natural resources. BMEL (the German Federal Ministry of Food and Agriculture) initiated the development of a future strategy for organic farming and commissioned the Thünen Institute to coordinate the strategy process, in order to stimulate additional growth. The goal is to increase the percentage of organic farmland from the current 6.3 percent to 20 percent. That is necessary as the demand for organic food is growing every year – turnover rose by eleven percent in 2015 alone.

The ecological production process ensures both species conservation and animal welfare. Organic farms take the needs of the animals into consideration. Use of pesticides is prohibited. In organic feed, the quantity of concentrated feed (grain, corn, soya) used in the feed ration is limited. Demeter farmers and manufacturers go far beyond the EU regulation on organic production requirements with their biodynamic methods, and are also drivers of employment. If all farm animals in Germany were kept appropriately, and German citizens only consumed the recommended quantity of meat or sausage, prices would only be roughly one third higher, and it would generate a significant positive climate effect. “If every German citizen went without meat once a week, that could reduce annual greenhouse emissions by roughly nine million tonnes,” explains Tanja Dräger de Teran, WWF Programme Officer for Climate Protection and Food.

Overfishing of the oceans is also reaching dangerous levels that threaten the ecosystem as a whole: According to the Fisheries Report by the Food and Agriculture Organization (FAO), each person eats over 20 kg of fish per year, almost one third of the stocks worldwide is overfished. Initiatives like DNP³ prize winner Followfish, a Fish & more company brand, focus on sustainability and transparency: Fish & more commits to sourcing farmed fish from organic aquaculture and wild fish from MSC-certified⁴ fishery; all suppliers and sourcing methods are disclosed in full.



I try to avoid one-way coffee cups and carry a reusable one with me.

ANNIKA TORO
Clerical worker

Our consumer behaviour also threatens the oceans and fish stocks in another way. According to a study by the Ellen MacArthur Foundation, eight million tonnes of plastic end up in the oceans each year. The plastic waste is shredded by wind, weather and tides to microplastic, ending up in the stomachs of sea birds and marine animals, who often die miserably as a result. These plastic particles are also to be found in many of our products, from cosmetics to synthetic clothing. They are released when we wash them, and enter the marine environment via our sewers. And finally, the plastic lands on our plates, for example when we eat fish polluted with microplastic and heavy metals.

³ German Sustainability Award

⁴ Marine Stewardship Council

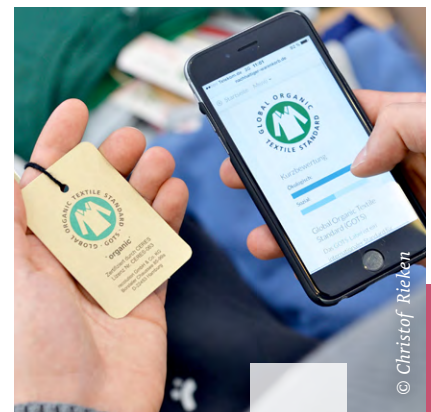
More clarity and transparency

By choosing sustainable products and services, we can let our money do the talking for us. The more often consumers choose sustainable alternative products, the greater the pressure on companies to offer products and services that consistently lead to sustainable developments. Sustainable consumption also means taking the long-term costs and consumption into consideration. As energy and water prices rise, products that pay off throughout their entire service life and are more resource-efficient in production are preferable. All in all, it shows that sustainable consumption can be worthwhile.

To ensure that consumers can really consume sustainably, they need better information and guidance. For this reason, the German Council for Sustainable Development initiated the “Sustainable Shopping Basket.” This shopping guide designed as an online magazine⁵ shows sustainable consumption alternatives, and provides orientation in 16 key areas for specific consumer decisions. Particularly credible labels are presented as tips for choosing food, travel and mobility, housing and building, domestic appliances and electronics, fashion and cosmetics. The required social and/or ecological conditions are outlined in the guide to facilitate educated purchase decisions. The message of the shopping guide is that “sustainable consumption is already possible and fun today”.

Reuse, repair, recycle

Thanks to the Internet and social networks, the share economy – exchanging and sharing products and services – is enjoying a major comeback: Car sharing, barter clubs, neighbourhood support groups or urban gardening are just a few examples. The want for more sustainability is one reason for the new trend according to a study by the University of Lüneburg. “It distinguishes two types of consumption in the sharing economy: people with a highly developed social orientation and fundamental awareness of sustainability, and pragmatic consumers who follow the trend for practical reasons like cost savings,” explains Harald Heinrichs, Professor for Sustainability and Policy at the University of Lüneburg and author of the study.



⁵ www.nachhaltiger-warenkorb.de

BEST PRACTICE

The Sustainable Shopping Basket: Guide for sustainable consumption

Consuming sustainably today seems easier than ever: Certified products with seals are available from retailers and many discounters. In spite of this, consumers often find sustainable consumption confusing. The production conditions for many products are often so unclear that it is difficult to make informed decisions. The "Sustainable Shopping Basket" helps customers make purchase decisions. The "Sustainable Shopping Basket" provides information on consumption alternatives on its website, in brochures and a mobile app, and provides rules of thumb for complex consumption decisions. The shopping basket describes alternatives and gives recommendations on food, travel, mobility, housing, building, household, electronics, financial investments, fashion and cosmetics. It evaluates the relevant seals and product labels in a practical and useful way.



www.nachhaltiger-warenkorb.de

"37 percent of those surveyed favour alternative forms of ownership and consumption." One reason for the success of the sharing economy is the growing awareness of production conditions, for example in the clothing industry: In manufacturing countries like Bangladesh, wages below the poverty line, child labour or 12-to-18-hour days without breaks are commonplace. The companies often have insufficient safety precautions and trade unions are banned, as revealed by the Clean Clothes Campaign. Added to this are the ecological problems in cotton production:

Cotton farm land accounts for 2.5 percent of farmland, but 25 percent of pesticides. 40,000 to 50,000 tonnes of dyes find their way into the water system of the producing countries due to the global textile industry each year.

The production conditions for electronic devices are also often inadequate: A growing percentage of consumer electronics is manufactured in developing and emerging countries; every second electronic device is produced in China. Studies by makeITfair show that employees in China and on the Philippines have to work

BEST PRACTICE

Advisory body for the public sector: Die Kompetenzstelle für nachhaltige Beschaffung

The public sector has a procurement volume of at least 350 billion euros annually. That is roughly 12 percent of the gross domestic product.

The "Kompetenzstelle für nachhaltige Beschaffung" (KNB; centre of expertise for sustainable procurement) at the Ministry of the Interior's Beschaffungsamt (office of procurement) advises public clients on sustainability criteria. It ensures knowledge transfer between the roughly 30,000 awarding offices of public sector bodies throughout Germany.

It does so in training courses and by informing decision makers at events and online. The Centre of Expertise works with experts from the industry, NGOs and public sector clients to develop new ideas and points of view.

www.nachhaltige-beschaffung.info



100 to 180 hours overtime per month without receiving additional payment above the minimum wage of 75 to 85 euros per month. This is in addition to the immense consumption of resources: Every mobile phone, tablet or PC contains a variety of metals and rare earth elements such as tantalum, gold, palladium, silver, cobalt and copper. Mining of coltan, which is used to produce tantalum, led to a civil war in the Congo. Recycling rates of the raw materials at the end of the lifecycle are still disgracefully low. At least there are first initiatives against resource waste and electronic scrap, for example repair cafés, which are growing in popularity in Germany, or the circular economy model, also known as cradle-to-cradle, developed by the German environmental chemist Michael Braungart together with American architect William McDonough.

Braungart explains his concept as follows: "Products should not be disposed of at the end of their lives, they should be designed from the beginning to be used in another form, or even be fully compostable."



How to promote sustainable consumption

Besides the behaviour of individual consumers, the private sector and politicians in particular are called upon to create better conditions for sustainable consumption. Sustainable management and production methods are the foundation for this. Promoting these targets is one of the 17 Sustainable Development Goals of the United Nations and the German Sustainable Development Strategy. The German Federal Government pursues various approaches: The **“National Programme for Sustainable Consumption”⁶** is ground-breaking in driving the necessary structural change forward with its approaches for a sustainable consumption policy: The programme relies primarily on voluntary self-commitments by all involved. For instance, it pools measures and initiatives, e.g. in consumer and health policy, agricultural policy, construction and housing policy, transport and infrastructure policy, research and educational policy or environmental, labour, social and economic policy. Overall, this aims to promote debates in society and to raise awareness among consumers. For this purpose, it highlights information on the causes and effects of consumer behaviours based on specific figures and parameters, for example (e.g. CO₂ emissions and water consumption for the production of jeans or a litre of milk etc.). Clarifying communication on CO₂ balances and resource consumption enhance the awareness of sustainability.

The action programme also aims to strengthen and expand these labels. The “Label Clarity” project has set itself the goal of introducing further signs and standard systems and thus highlight groups of everyday products.

In addition, the Federal Cabinet passed the **National Action Plan for the Economy and Human Rights in December 2016**.

The goal is to implement the guiding economy and human rights principles of the United Nations. This embeds the responsibilities of German companies to protect human rights in solid framework for the first time by defining globally common and verifiable standards. With the objective of improving the human rights situation along the global supply and value chain, the plan pools the strengths of the government, economy, society and trade union stakeholders. The German Federal Government formulates its clear expectation in the action plan: Companies have to fulfil their duty of care to protect human rights.

⁶ www.bmub.bund.de/fileadmin/Daten_BMU/Download_PDF/Produkte_und_Umwelt/nat_programm_konsum_bf.pdf



BEST PRACTICE

Food savers at work

From production to the end consumer, over 18 million tonnes of food is lost along the entire food value chain. This is equivalent to almost one third of the annual food consumption in Germany (currently 54.5 million tonnes). The Sustainability Strategy of the German Federal Government aims to improve the availability and reliability of relevant data rapidly, to avoid food waste. Practical action is already being taken now. Various private and public sector initiatives work to prevent losses and demonstrate pioneering solutions.



DIE TAFELN (THE TABLES)

With over 900 charity associations, the "Tafeln" are one of the largest social movements in Germany. They pool roughly 60,000 voluntary helpers, who collect surplus food of a certain quality standard from retailers and manufacturers. It is distributed to financially less well-off people free of charge or for a symbolic amount. Every week, over 1.5 million people use the services of the Tafeln. One third of those are children and young people. Half of the Tafeln operate as registered associations, while the other half are run by charity associations, church institutions and foundations.

www.tafel.de



FOODSHARING

Foodsharing e. V. is a nationwide non-profit initiative to prevent food waste in companies. Over 20,000 honorary members and many thousand volunteers work to prevent food being destroyed in roughly 2,700 companies. A virtual open-source platform shows members surplus food in their area that is available for free.

www.foodsharing.de

Key points in this area include policy statements by companies, for example, to respect human rights. Moreover, a procedure is to be defined to determine real and potentially disadvantageous effects of business actions on human rights. The German Federal Government aims to encourage companies to report on social and ecological standards for their overseas transactions, and holds international companies, in which the Federal Republic of Germany has majority ownership, particularly responsible.

By 2020, the German Federal Government wants half of all large companies with over 500 employees to implement duties of care to protect human rights – this comprises roughly 6,000 companies. From 2018 on, it therefore intends to assess annually whether the private sector also meets these expectations. If companies fail to reach the goals set, a law could follow and the number of companies targeted could be expanded.





BEST PRACTICE

Food savers at work



QUERFELD

When harvesting fruit and vegetables, up to 30 percent of the fruit does not meet the visual standards required by retailers. It is sorted out and processed as animal feed or destroyed. In order to avoid this, the Querfeld initiative cooperates with organic farms. Querfeld takes the goods rejected by companies and delivers them to schools, catering firms and other food processing organizations.

www.querfeld.bio



TOO GOOD FOR THE BIN!

"Too good for the bin!" provides information on the causes and consequences of our waste and gives practical tips – from planning your shopping to correct storage and how to use leftovers. Teaching materials were developed specifically for schools. Class sets can be ordered free of charge. The "Beste-Reste" (Best Leftovers) app provides information on the go, including many recipes and an integrated shopping list. Since 2015, it advertizes Beste-Reste boxes in restaurants where leftovers can be collected and taken home. The German Federal Ministry of Food and Agriculture (BMEL) plans to expand the "Too good for the bin!" initiative, which has existed since 2012, to a national strategy. All stakeholders along the value chain can participate. Federal states, NGOs and the hospitality trade are involved. In 2016, the BMEL presented the first German Federal Award for Work to Prevent Food Waste; the competition will be continued annually in future.

www.zugutfuerdietonne.de

Fair value added

However, Germany's responsibility in the world also includes the first links in the value chain of products that are consumed in Germany but not produced in Germany. Therefore, the Sustainability Strategy uses the textile chain as an example. A new indicator focuses on the percentage of turnover earned by the members of the Textile Alliance on the textile market → **see topic "Economy"**. The new indicator "Market share of products with government environmental labels" is a first attempt to measure sustainable consumption. The current Sustainability Strategy initially only refers to "ecological" products and only takes products with an environmental label organised by the federal government of Germany (i.e. Blauer Engel, German organic product seal) into consideration. As a contribution to the discussion on the draft strategy, the German Council for Sustainable Development submitted a report by the IMUG Institute containing a statistically and normatively feasible way to measure sustainable consumption and supplemented it with a "frugality indicator."

Less is more – but equal!

The goal of the 2015 agreement by Heads of State and Government in Paris to restrict global warming to 1.5 degrees requires an 80 percent reduction of CO₂ emissions. To serve as a credible example at an international level, the Sustainability Council believes that this calls for holistic strategies to increase efficiency, technical innovations, infrastructure upgrade – and also for sufficiency.

A new approach is already being taken at a wide range of levels: Consumers, politicians and producing companies are on a good, forward-looking path – but are still at square one. Now is the time for decisive action. Sustainable consumption calls for innovations, alternative products, new ways of thinking and acting together for all stakeholders equally – and an honest discussion on visions for sustainable management and a transformation of our economic system. The topic of sufficiency must become an integral part of this. In Germany and worldwide, changing political conditions, incentives and stimuli for more sustainable and sufficient production, consumption and lifestyles are required.



Other publications of the German Council for Sustainable Development

- The Sustainable Shopping Basket – A guide to better shopping

Klaus Müller

CHAIRMAN OF THE FEDERATION OF GERMAN CONSUMER ORGANISATIONS (VZBV)

*“We need more transparency
and binding minimum
standards for sustainable
production.”*



INTERVIEW

KLAUS MÜLLER
CHAIRMAN OF THE FEDERATION
OF GERMAN CONSUMER
ORGANISATIONS (VBZV)

Is consumption today more sustainable than 20 or 30 years ago?

Of course, we can see that we are making substantial progress, for example in energy efficient appliances or generating electricity from renewable resources. At the same time, we need to consider that 20 or 30 years ago, people consumed less in general. Conversely, that means that fewer resources were used. Consumer goods also used to last longer in the past. They were more expensive, so people treated them more carefully and appreciated them more. In this sense, we used to consume more sustainably than we do now.

What role does the individual consumer play in sustainable development? How can consumers influence the market?

Through their demand, consumers can indeed play an important role in sustainable development. Unfortunately, they often cannot consume as sustainably as they would like to, as too few goods are produced sustainably, the labelling is not obvious or the price is too high. It has also been

Safeguarding human rights and protecting our planet must become natural standard.

found that "shopping basket politics," which places the full burden of responsibility on the consumer, does not lead to success. Consumers cannot be expected to make key decisions on human rights, resources and ecology in supermarkets alone.

We need additional, clear regulatory requirements for businesses, stipulating how they must produce and what responsibility for supply chains means.

In spite of this, the German Federal Government emphasizes that consumers are responsible for choosing the product and using it in a socially acceptable and environmentally friendly manner ... But how much responsibility can consumers bear? And how much responsibility are they willing to take on?

Anyone who attempts to shift social responsibility to individual consumers is taking the easy way out. That is a job for politicians, manufacturers and retailers in particular. How the goods are produced plays an essential role: It is easier for consumers to act sustainably at the counter if sustainable resources are used and fundamental human rights, employee rights and ecological standards are observed. Safeguarding human rights and protecting our planet must become natural standard. To achieve this, consumers must be able to make well-founded purchase decisions and be aware of the impact of their consumption. Only then can they change their consumer behaviour and demand political conditions that guarantee sustainable production. Transparency on production and manufacturing steps is a first important step in this process.

INTERVIEW

KLAUS MÜLLER
CHAIRMAN OF THE FEDERATION
OF GERMAN CONSUMER
ORGANISATIONS (VBZV)

Can individuals even realistically assess the sustainability of products?

It is hard to assess how sustainable a product is by looking at it, because we in Germany have been largely immune to the effects until now. Many negative effects of production on humans and the environment are outsourced to other countries and are therefore not apparent to us at first glance. That is why we need minimum government requirements for social and environmentally responsible production. All industries – whether textile, food or electronic devices – require clear and binding government criteria defining what socially and environmentally responsible production is. With support from scientists, consumer organisations and businesses, minimum requirements and/or criteria

Many negative effects of production on humans and the environment are outsourced to other countries and are therefore not apparent to us at first glance.

(benchmarks) for ecological and social aspects must be developed specifically for all product groups. In that way, we can reward the hard work of companies that operate sustainably. For instance, if the companies' commitment exceeds the government benchmark, products can be identified with a prominent government quality label as a logo affixed to the products. That makes it easy for consumers to find orientation.

Self-determined, critical consumers are the ideal case. Which specific measures is the Federation of German Consumer Organisations taking to make society more sustainable?

The Federation of German Consumer Organisations calls on politics and enterprises to set the course for sustainable development, for example in the transition to sustainable energy systems, development of electromobility or animal welfare in live-stock farming. We also promote consumer education at schools, to develop the everyday and consumer skills of children and young people at an early stage. For example, our "Material Compass" gives teachers audited teaching material on sustainable consumption, among other topics.

Many consumers also come to our information centres with questions on warranty law or labelling of goods produced in an environmentally friendly and socially responsible manner. Sustainable investments and environmental and product safety are key topics. There is a lot of confusion when it comes to product labelling, as "sustainably produced" is not a legally protected term.

INTERVIEW

KLAUS MÜLLER
CHAIRMAN OF THE FEDERATION
OF GERMAN CONSUMER
ORGANISATIONS (VBZV)

In theory, many people want to live more sustainably – but don't do so in their everyday lives. How do you explain this discrepancy?

There are several reasons for this. On one hand, unfortunately, we don't always act rationally. Our everyday lives are largely made up of practised routines that we often adhere to. On the other hand, we are also subject to behavioural biases. That means we base our actions on social norms: The more people use a coffee-to-go cup, the more this becomes the norm. However, I believe the main reason for our failure to act is that we cannot see the effects of our consumption. Raw materials are generally farmed or mined overseas, hidden from our view. Direct effects of climate change are virtually imperceptible for people in Europe. That is just as true for the soils over-fertilized for agricultural purposes and the labour conditions in textile production. We need more transparency and visibility here.

How can we motivate people to consume sustainably nonetheless?

For example, by making consumption and savings visible: When it comes to domestic appliances, the EU energy consumption labels and the EU Ecodesign requirements led to significant savings.

However, it is still important that consumers disconnect devices not required from the power supply completely. There is also a high potential for savings in thermal insulation of buildings. To achieve this, politicians must expand tax reliefs and financial support to reduce the investment barrier for home owners.

Sustainable consumption is also a key contributor to intergenerational justice.

Can everyone consume sustainably?

Sustainable consumption is still quite a small niche. However, if politicians make sustainable production methods standard, there will be more competition on this market. That will reduce the prices and permit sustainable consumption for much of the population.

As a consumer association, we want to enhance the social dimension of sustainability in future. Sustainable consumption is also a key contributor to intergenerational justice. Political conditions should promote an inclusive society that allows all consumer groups, including senior citizens, children, people with disabilities, the socially disadvantaged, migrants and refugees to participate equally in society.

INTERVIEW

KLAUS MÜLLER
CHAIRMAN OF THE FEDERATION
OF GERMAN CONSUMER
ORGANISATIONS (VBZV)

Which role do sufficiency aspects play for consumers and companies?

Sufficiency, i.e. less or more moderate consumption, is becoming increasingly important for many consumers. Some consumers even consider consumption or property as a burden. That is why more and more people seek to share products instead of owning them.

Nobody needs a new smartphone every year.

It is essential for us to ensure that we produce high-quality and durable products that can also be repaired. Companies must meet this demand from consumers and bring sustainable products to market. I also wish companies would advertise and market their products and services responsibly, to avoid stimulating non-sustainable consumer desires and needs. Nobody needs a new smartphone every year.

To conclude, we would like to end the interview with a brief statement.

**Please complete the following sentence:
For me, sustainability is ...**

...to leave a world for our children that is just and worth living.

An aerial photograph of a large container port. The foreground and middle ground are filled with numerous stacks of intermodal containers in various colors, including red, blue, green, yellow, and white. A large red gantry crane with the number 'T1697' on its side is positioned over the stacks. In the background, a white truck is visible among the containers. The sky is not visible, as the containers fill the upper portion of the frame. A white rectangular box with a yellow geometric shape inside is overlaid on the top left of the image.

Changing the economy

New coordinates for
the economic system

Worldwide, 836 million people live in extreme poverty. In the 2030 Agenda, the international community of nations has set itself ambitious goals: Poverty and hunger worldwide must be overcome – and all of this is to be done ecologically and under the premises of climate protection. In harmony with the 2030 Agenda, a decision was also made to limit global warming to 1.5 degrees at the climate change conference in Paris until 2050. Everyone who commented on it was convinced that the global challenges can only be solved together. It is not the aim, but the implementation that is under discussion ...

from KATRIN MÜLLER

The 2030 Agenda creates a new development paradigm. Economic progress is to be linked with social justice and as part of the planetary boundaries worldwide. 17 ambitious core targets were formulated for the environment, society and the economy – the Sustainable Development Goals (SDGs) – which incorporate the “5 Ps”: People, Planet, Prosperity, Peace, Partnership. They apply equally for developing countries, emerging countries and industrial countries.

The political will has been stated, but the success of the implementation of the 2030 Agenda in the individual countries remains to be seen. It will take strong cooperation as part of a new global partnership to reach the goals. Moreover, all countries must report on their efforts and progress.



Leave no one behind.

BAN KI-MOON
Secretary-General of the UN 2007 – 2016

However, every plan is only as good as its implementation. The objectives of the 2030 Agenda can only be achieved with strong cooperation as part of a new global partnership. As a result, all countries must report on their efforts and progress – not just nationally, but also at the High Level Political Forum on Sustainable Development, HLPF¹.

Industrialized countries like Germany are among the largest producers of greenhouse gases. Companies and consumers benefit from the cheap raw materials and low wages in developing countries. The wealthy nations therefore have a special responsibility in establishing sustainable economic structures globally.

¹ High Level Political Forum on Sustainable Development, HLPF

The 2030 Agenda expressly calls for a focus on the weakest and “most vulnerable” nations. “We must ensure no one is left behind,” said former Secretary-General of the UN Ban Ki-moon. “However, the real test is still to come, the implementation.” Federal Chancellor Dr. Merkel therefore called for the 2030 Agenda to be “a fixed part of all political agendas.”

Overseas, Germany is considered a country with a high quality of life, as revealed by the study “Germany in the eyes of the world” of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) from 2015. Germany is also described as dynamic and efficient with the corresponding “innovation landscape”. In sustainability, too, international expectations of the Federal Republic of Germany as a trendsetter are high, not least due to its self-proclaimed energy transition. As a result, Germany has a pioneering role in implementing the 2030 Agenda.

Whether solar electricity from the roof of an industrial hall, resource efficiency measures or investments in education in poorer countries: An environmentally friendly and socially responsible economy has many facets. Many companies have long since recognized that production on credit, exploiting people and the environment not only adversely affects their image, but will also cost them dearly in the long term. After reports of environmental pollution scandals and inhumane labour conditions in Asia, textile companies promised to mend their ways and committed to a process of continuous improvement of global supply chains.

How many Earths do we need if the world's population lived like ...



**April
16**
2016

Earth
Overshoot
Day
Germany

Author and innovation consultant Anna Handschuh works for independent think-tank “Gottlieb Duttweiler Institute” domiciled in Switzerland. In an interview with the Swiss Broadcasting Company (SRF), she summarized the interaction between trade and consumption in a single sentence: **“Bangladesh starts in our wardrobe.”**

But not all efforts to improve the ecological balance are effective, and there is a risk of green-washing in some cases. For example, that can occur when a corporation advertizes its support of environmental projects on one hand, but on the other builds highly complex, obscure supply

chain structures that make it impossible to check locally where it sources its raw materials. The key is that a company’s sustainability strategy is rooted in its core



Bangladesh starts in our wardrobe.

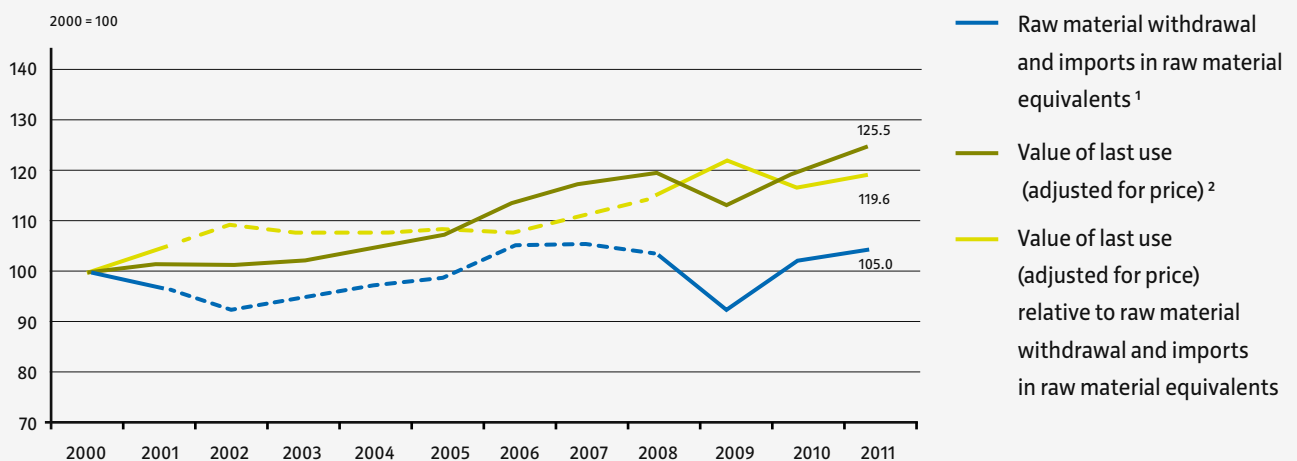
ANNA HANDSCHUH
foundress Elephant Strategy

business and that the company publicly states how and when it aims to reach its goals. This is an important prerequisite for the transition to a less resource-intensive and more socially responsible economy.

Total raw material productivity

Value of the last uses relative to raw material withdrawal and imports in raw material equivalents

The total raw material productivity represents the raw material efficiency of the German macroeconomy. The German gross domestic product and the global raw materials required for this are compared to determine this figure. The objective of the German Resource Efficiency Programme (ProgRes) II is to further increase this and thus disconnect economic growth and resource consumption in the context of the circular economy.



¹ 2001 to 2007 interpolated

² Adjusted for price, corresponds to gross domestic product plus value of imports. Source: Federal Statistical Office

Setting a good example

The winners of the annual German Sustainability Award illustrate the spectrum for companies to optimize their production processes and guidelines. Medium-sized family company VAUDE for example develops, produces and sells outdoor sports goods at very high sustainability standards. For example, VAUDE produces clothing and sporting equipment under the Green Shape Label, campaigns for fair working conditions in low-wage countries as part of the Fair Wear Foundation and is a member of the Partnership for Sustainable Textiles. Even in the company itself, sustainability is practiced authentically by the management, as showcased by rules like the VAUDE Material Policy, the packaging guidelines, the purchasing policy for furniture and office material or the mobility concept. As a result, VAUDE was voted Germany's most sustainable brand in 2015.

Heating technology company Vaillant also impressed voters, who named it Germany's most sustainable large company in 2015. The justification was that Vaillant offers key technologies for the energy transition and meets its eco-social responsibility in an exemplary fashion. Here, too, the key was that sustainability is deeply rooted in every area of the heating technology company, and particularly energy-efficient production and recycling-friendly disposal set standards.

Even listed companies like chemicals giant BASF and the world's third-largest independent software supplier SAP have taken various measures that show how sustainable management is possible, no matter what size and shape the company is.

Fair production and trade

In order to achieve the ambitious UN sustainability and climate protection targets, agriculture and forestry must produce enough healthy food for everyone, but also focus on protection and preservation of soil, water, biodiversity and air. Examples of initiatives to make agriculture and forestry socially responsible and environmentally friendly include the "Future Strategy for Organic Farming" as well as international alliances such as the "Forum for Sustainable Palm Oil" (FONAP) or the "German Initiative on Sustainable Cocoa" (FNK). In this partnership, the industry and ministries jointly set themselves the goal of improving the living and working conditions for small farmers in the producing countries effectively and in the long term, significantly increasing the percentage of sustainable cocoa.

BEST PRACTICE

A contribution to economic responsibility: The Sustainability Code

The Sustainability Code has been recommended to companies and organizations by the German Council for Sustainable Development (RNE) for voluntary application since the end of 2011.

As part of the Sustainability Code, project companies can undergo standardized reporting. "The Sustainability Code gives companies of all legal forms a tool that offers transparency on sustainability and thus permits quality comparisons," said Christian Strenger, Member of the Supervisory Board at DWS Investments.

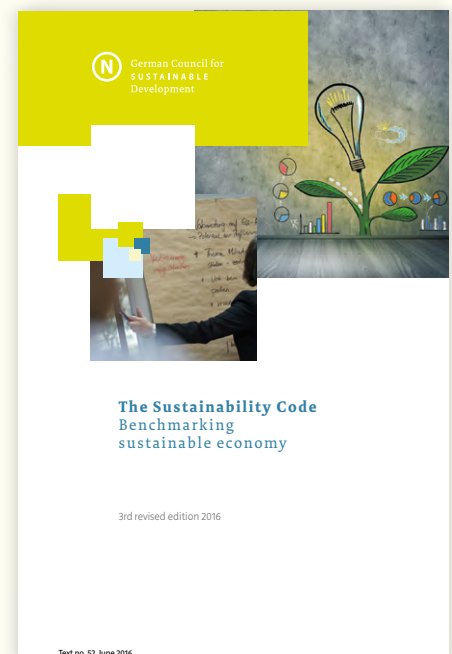
To date, 191 companies and organizations have submitted 374 declarations of conformity (as of March 2017). They use the standard to report to the public on their non-financial achievements in ecology, social matters and governance. This is often associated with company-internal reorientation towards sustainability or strengthening the existing company commitment.

The standard is internationally applicable and available in multiple languages. Companies, industry associations, chambers and civic organisations receive a comprehensive insight into practical introduction of the Sustainability Code. The Council adds the element of "Sustainability" to "Made in Germany" and the Sustainability Code makes it transparent and comparable.

Accordingly, the Sustainability Code has had a powerful effect since its introduction: The European Commission and German legislator have praised the Code as a suitable standard for fulfilling the disclosure of non-financial and diversity information. This reporting obligation applies for companies with over 500 employees that are in the public interest.

For further information:

www.sustainabilitycode.org



Sustainable certification of products helps make production more sustainable, but is not sufficient overall to transform consumption and production. On one hand, certificates must gradually become more ambitious, on the other, the government and commercial law conditions must also be aligned as consistently with the requirements for a sustainable economy, to avoid corruption and human rights violations.



Companies tend to underestimate the cost of social conflict.

CORALIE DAVID
OECD

The retail sector, as the link between consumers and producers of goods, will play a key role. Consumers can purchase fair-trade and environmentally friendly products more easily if they are stocked by many supermarkets and discounters, and are presented attractively. Demand is rising continually.

At 1.14 billion euros, the total fair-trade turnover reached a peak in 2015, as indicated by the “Fair Trade” forum in its most recent report. However, it remains under one percent of the overall food market.

In recent years, studies on the consumer behaviour of Germans have shown that a majority of consumers, particularly in the food sector, are increasingly interested in a product’s provenance, and that many consumers are searching specifically for information. Europe’s largest organic dairy, Andechser Molkerei Scheitz GmbH, and its “Andechser Natur” brand is particularly transparent for customers, allowing them to trace the milk from the organic dairy farmers’ cows to the shop shelf. Before the purchase, consumers can use the QR code on the package to view information on the product. In this way, the dairy shows how a brand can create a close relationship between the raw material producer and the customer.

Companies like Tchibo, Henkel or Alnatura already show how a sustainable corporate strategy can be implemented and the supply and value chains can be made more socially responsible and environmentally friendly. According to Tchibo, the company is a market leader in Germany and other European nations for roast coffee.

BEST PRACTICE

Alliances for a fair economy: From raw materials to consumers

As importers of goods and raw materials, German companies have an interest in good economic relations. More and more companies are discussing sustainable production and trade conditions in networks.



PARTNERSHIP FOR SUSTAINABLE TEXTILE

90 percent of the textiles sold in Germany are imported from China, Turkey or Bangladesh. The Partnership for Sustainable Textiles was founded in 2014, as a reaction to a collapsed building at Rana Plaza in Bangladesh. It pools the synergies of multiple stakeholders along the textile supply chain and aims to make production, processing and retail of textiles more socially and ecologically sustainable. Among other things, this includes improving labour conditions and occupational health and safety, use of chemicals and certification of textiles. After just one year, the number of members of the alliance increased fivefold to 188 members. That is 55 percent of the German textile and clothing market. According to the Sustainability Strategy, this is to reach 75 percent by the end of 2017. By joining the alliance, the members commit to a continuous improvement process that is audited by independent third parties.

www.textilbuendnis.com/en



THE GERMAN INITIATIVE ON SUSTAINABLE COCOA

In 2014 / 15 the total yield of raw cocoa was 4,229,600 tonnes. Germany imports 10 percent of this total global harvest, making it one of the largest importers worldwide. In order to make the cocoa sector more sustainable, over 70 stakeholders from the German cocoa and chocolate industry, food retail, the German Federal Government and the civil society have partnered in Forum Nachhaltiger Kakao e. V. (German Initiative on Sustainable Cocoa). Its aim is to improve the living conditions of the cocoa farmers and their families. By importing more sustainably grown cocoa, the biodiversity and natural resources in the producing countries →



BEST PRACTICE

Alliances for a fair economy: From raw materials to consumers



→ are to be preserved. Almost 30 percent of the cocoa sold in Germany is now grown sustainably. The forum unites relevant stakeholders from Germany, the producing countries and international initiatives. Its own PRO-PLANTEURS project supports 20,000 cocoa farmers and their families in Côte d'Ivoire. Forum Nachhaltiger Kakao has been recognized as a pilot project for the national Sustainability Strategy for 2016.

www.kakaoforum.de/en/startseite.html



THE FORUM FOR SUSTAINABLE PALM OIL

Global consumption of palm oil in the food and cosmetics industry is high: 65.4 million tonnes were produced in 2015. Germany's demand accounts for 2 percent. Indonesia and Malaysia combined produced 85 percent of global palm oil, but production is also increasing in Africa and Latin America. Most oil palms are grown by small farmers: In Indonesia, roughly 45 percent of the oil palm land is farmed by small farmers, and up to 80 percent in some areas of Africa. Oil palm farming is highly relevant in terms of development policy and ecology. Valuable primary forests are deforested or slash-and-burned in the rainforest regions of Malaysia and Indonesia for palm oil plantations. This results in soil erosion, significant greenhouse gas emissions and a threat to biodiversity.

Forum Nachhaltiges Palmöl (the Forum for Sustainable Palm Oil) works on significantly increasing the percentage of segregated and certified palm oil and palm kernel oil or corresponding derivatives in the DACH region (Germany, Austria, Switzerland). The initiative of 44 companies from the palm oil-producing industry, associations, non-government organizations and the Federal Ministry of Food and Agriculture develops proposals to improve existing certification systems.

www.forumpalmoel.org/en/fonap.html



BEST PRACTICE

Facilitating understanding – networking knowledge: Coordinating research projects for a sustainable economy in the Nawiko initiative

In the “Sustainable Economy” subsidy programme, the German Federal Ministry of Education and Research takes the complexity of the transition to a more sustainable economy into consideration.

The project subsidizes 30 multi-year research projects that span a range of global and local business sectors and aspects of the sustainable economy. The “Scientific Coordination of Research Projects on a Sustainable Economy” (NaWiKo) was founded to accompany the project. Through networking and knowledge sharing, it generates synergies between the projects and supports public relations work and putting the results into practice.

www.nachhaltigeswirtschaften-soef.de/en



As part of its corporate social responsibility programme, the company works to improve living conditions in the coffee plantation regions with its own projects, for example. Following the principle “helping others to help themselves,” it offers educational and professional services for children and young people together with local partners. Tchibo also sells textiles. As the cotton for this generally comes from developing and emerging countries, the company has joined forces with the “Aid by Trade

Foundation” to campaign for sustainable cotton farming in Sub-Saharan Africa, among other things. The “Partnership for Sustainable Textiles” is considered an important step towards non-toxic fashion. The roughly 180 members have undertaken to gradually replace problem chemicals in textile production with safe substances, and to ensure humane living conditions in manufacturing countries, too.

Since 2002, guidelines for an ecologically fair economy have been updated in the German Sustainable Development Strategy. The new 2016 edition expands it further and also incorporates the international supply chains into the goal and the indicator for resource use.



Some small eco labels allow you to trace the production process back all the way to the cotton fields. The big textile and sports article producers don't usually offer that.

MANFRED SANTEN
Greenpeace

However, the generally increasing consumption of space, energy and resources remains troublesome. Government measures are still urgently needed. Science and research must be subsidized to develop alternatives. And that is being done. We need more strategies to increase efficiency, but sufficiency must also play a role – frugality and sacrifice are sometimes the better solutions. New ideas and instruments are necessary, whereas they cannot be prescribed. Like all other countries, Germany is still at square one.

Sustainable finances

In addition to alliances and the optimization of production processes, sustainable growth also needs partners for sustainable innovation. The universal global sustainability goals – including the climate goals – are challenges for the political and financial sectors. Sustainability can and must drive investment. It is not the easy money that counts, it is investing in the future and in durability. Even today, green financial assets are playing an increasingly important role, investments in fossil fuels are becoming more risky. However, sustainable investments remain a niche. Good intentions by investors are welcome, but it will take policy and structures to get sustainable investment to the level it deserves.

To date, there are no minimum material standards. As a result, services are not comparable. Until now, there is neither a legal framework to prompt investment strategies of the pension funds and other public investors to observe ethical, social and ecological aspects and be accountable for them.

Apart from individual exceptions in Berlin and Münster, sustainable investment products have not played a role in the municipalities and national pension funds until now.

Flows of finances focused on sustainability are needed to prevent exploitation in poorer countries and preserve the ecosystem. Many financial institutes continue to invest in harmful and non-sustainable sectors like mining and oil production, and earn profits with obscure transactions in some cases. In spite of the heightened bank regulations after the financial crisis, the management practices and business models have hardly changed, especially in the investment banking sector. Every year, developing countries lose taxation income of roughly 100 billion dollars due to multinational offshoring, share tricks and tax evasion transactions. Another problem are high risk transactions due to the activities of shadow banks. These lenders are generally high-capital finance companies outside the regular banking system. They are therefore not subject to the regulating mechanisms which apply to banks and the resulting control of their investments.

In order to avoid new crises, it is essential that investors and banks fulfil their key role and secure the capital required with sustainable and innovative business models. Traditional risk assessment systems no longer work here. It is important that in this sector, the stakeholders build on their qualifications and develop new opportunity and risk assessment systems.

Established concepts must be expanded and the financial sector overall must be prepared for the future.

Ecological and ethical banks with transparent, sustainable investments are considered particularly credible partners. At various levels, they finance companies that earn their money with renewable energy sources and particularly fair and future-safe business models. They avoid transactions with coal, crude oil and banned weapons, child labour and all enterprises in which human rights, fundamental rights and labour laws are violated. The market share of alternative banks is still relatively low, however, they are becoming increasingly popular. Germany's largest sustainable bank GLS recorded an increase in account deposits by 15.3 percent to almost 3.6 billion euros in 2015. In low interest periods, GLS reports that more and more customers are interested in purposeful investment of their savings.



Sustainability strategies are playing an increasing role in conventional banking operations and for development banks. Stress tests by the bank authorities in Europe force banks to revise their business models, especially to secure the required equity ratio of eight percent. Some banks like Deutsche Bank are also so system-relevant that they are even monitored directly by the European Central Bank. There, too, sustainability plays a certain role, even in core business.



The price of a T-shirt says nothing about the conditions in which it was produced.

MARIO DZIAMSKI
Rank a Brand

A rich export country like Germany also has a special responsibility internationally when it comes to promoting sustainable growth, and is well aware of this task. Germany is the fifth-largest sponsor of the “Green Climate Fund”. Other examples include efforts in “Financing for Development” by the Federal Ministry for Economic Cooperation and Development, innovative financing mechanisms like using the revenue from auctioning emission certificates and loans from the national development bank KfW.

National impulses

On one hand, the German Government intervenes through legislature, to implement social and environmental standards. On the other hand, it supports sustainable management in different ways. In order to promote sustainable products and business processes, interdepartmental cooperation of the ministries is essential. The Environmental Management Report of the State of North Rhine-Westphalia (NRW) plays a pioneering role in this. The analysis by the Ministry of the Environment of NRW includes an inventory of the existing corporate environment and the range of services in the federal state. The report is to form the starting point for targeted economic policy measures. The government also leads by example. Preserving resources is also the stated goal of the administration. There are many projects for this at national and state level. The eco-social tendering guidelines of the federal state of Berlin are one example with a major public impact. According to public information, the German capital buys goods for four to five billion euros each year, from coffee and computers to construction materials. In July 2010, a law was passed that requires a 100 percent eco-fair procurement policy. Public tenders from the senate must therefore also fulfil ecological criteria as well as the ILO core labour standards.

The legal minimum wage of 8.50 euros – 8.84 euros from 2017 – must be paid. The government coalition agreed to “deduct (divest) and reinvest sustainably” direct and indirect financial assets of the federal state of Berlin whose “return is based on ethically and ecologically particularly problematic transactions.” The fundamental financial asset goals “security, liquidity and return” were supplemented with the goal “ethics and sustainability”.

The efforts of politics and business reveal that sustainable economy, growth and wealth are not mutually exclusive, even though there are many conflicting objectives in detail. Where should one invest, and which assets should be divested? Who can be trusted, and who is not trustworthy? What is green-washed, and what must be taken seriously?

For companies, sustainable management is a great opportunity. By saving resources like energy or water in the production process, they also reduced their costs in these areas. Consumers are also more sensitive to environmental damage caused by obscure supply chains in other parts of the world. Many people also want to invest their savings under ethical and environmental aspects. However, they often do not receive credible advice and a reliable overview of the offers on the market. When defined appropriately, sustainability is a major competitive advantage for companies.



Dr. Daniela Büchel

GROUP EXECUTIVE MANAGEMENT RETAIL GERMANY - HR AND SUSTAINABILITY DEPARTMENT AT REWE GROUP

*“Sustainability can
exist outside its niche.”*



INTERVIEWDR. DANIELA BÜCHEL
REWE GROUP

With its guideline for sustainable business, the REWE Group has created a value base for its own company. How do you translate this guideline into everyday activities, corporate structures and processes in your company?

Sustainability is only seriously practised in companies if all of the employees see themselves as ambassadors. Managers play a key role in this. Managers are always points of reference for employees.

We aim to halve our specific greenhouse gas emissions by 2022 compared with the reference year 2006.

When employees see that managers – whether in a REWE supermarket or at headquarters – put the guidelines into practice even in tough and stressful times, that has a halo effect on the whole company. That is why we have appointed all of our Management Board, Division Heads and general representatives, among others, as internal sustainability ambassadors. The guidelines are the foundation on which we build everything.

What challenges do you face and where do you see opportunities for the REWE Group?

Of course, one of the greatest challenges is reaching every single employee in our markets with our commitment to sustainability. That is the only way we will succeed in inspiring our customers to more sustainability, and influence society to consume more sustainably. We have 70 million customer contacts every week in our markets, and of course each of these

is an opportunity to convince customers to choose more sustainable products. Another major challenge is the complexity in many of the supply chains and the wide variety of products we offer in our markets. In many cases, one company cannot change the hotspots on its own, an industry initiative is required. That can take a little longer, as a lot of stakeholders have to be brought together first.

What does the change mean specifically? Can you give us an example of how you are reducing environmental pollution and improving your company's eco-efficiency specifically?

The REWE Group set itself an ambitious climate goal years ago: By 2015, we wanted to reduce the CO₂ emissions per square metre of retail space by 30 percent compared with the base year 2006. We achieved this goal ahead of schedule at the end of 2012. In particular, switching to green electricity and a comprehensive energy management system, including extensive technical measures to increase energy efficiency helped us do so. As a pioneer in the industry, we were not satisfied with this achievement, and defined a new, even more ambitious climate goal: We aim to halve our specific greenhouse gas emissions by 2022 compared with the reference year 2006.

INTERVIEW

DR. DANIELA BÜCHEL
REWE GROUP

However, at the same time, our value and supply chains are long and complex. Can an individual company even influence international and global value and supply chains?

For a single company, the attempt to do so is virtually futile. That is why we strongly support industry solutions. We want to bring all stakeholders in the supply chain on board, as this is the only way to influence global supply chains.

What role do companies play in implementing the 2030 Agenda?

The ratification of the Sustainable Development Goals by 193 nations in September last year was a major step forward, in particular because the goals were developed in a comprehensive social dialogue, incorporating businesses. We looked into the 2030 Agenda in great detail and determined, with support from internal and external experts, which of the 17 Sustainable Development Goals we need to work on as priorities. We are currently implementing them in our strategy processes.

What do you do specifically to make supply chains more socially responsible and environmentally friendly?

First of all, we are very careful when choosing our partners. To become a REWE supplier, companies have to overcome many high barriers. That includes ensuring that our partners understand that we view ourselves as drivers of sustainability. We also rely on internal and external specialists to assess companies locally, because we also want to understand where the problems are. That is the only way we can support our partners and improve things together. Cooperation accomplishes a lot more than confrontation.

Cooperation accomplishes a lot more than confrontation.

In niches, some sustainable products enjoy high market shares (e.g. fair-trade cocoa), but they have not reached the mainstream yet. Do you think it is even possible that we will ever use sustainable products exclusively? What extent do you feel is realistic?

With roughly 700 PRO PLANET products, we have shown for years that sustainability can exist outside its niche. However, there is still a long way to go before all of our products will be more sustainable. On one hand that is because products can be more or less sustainable depending on the perspective. For example, a product itself can be produced sustainably, but its packaging may be less sustainable or not sustainable at all.

INTERVIEW

DR. DANIELA BÜCHEL
REWE GROUP

On the other hand, we will all have to reconsider our consumption habits and alter them in many respects. Let's take food waste as a simple example. Everyone in this country knows that we throw out way too much at home. Unfortunately, far too few people change their behaviour specifically based on this knowledge.

To conclude, we would like to end the interview with a brief statement. Please complete the following sentence: For me, sustainability is ...

... when I can tell my children with a clear conscience that I did my best to help make tomorrow's world liveable.



The energy transition

Future lab Germany –
a joint effort



Today, the energy transition in Germany is considered the largest economic policy project since the reunification. The transition from a primarily fossil-based energy industry to a power supply from renewable energy sources is an immense challenge for an industrial nation like the Federal Republic of Germany, but also a great opportunity.

by KATRIN MÜLLER

Since the 1990s, German energy policy has focused largely on reducing CO₂ emissions, protecting the climate and ensuring supply security at all times. In addition to more efficient use of energy, energy research and expansion of renewable energy sources, nuclear power was also considered essential for a long time. The political decision made in 2001 to phase out nuclear power was controversial and required continued operation of plants until the 2030s and longer.

A historic turning point in German energy policy came in summer 2011: After the Fukushima reactor disaster, Germany was the first major industrial nation to turn away from nuclear power. A cross-party majority in the German Bundestag voted to phase out nuclear power. According to the resolution of the Bundestag, eight nuclear power stations were to be decommissioned immediately, and the

remaining nine plants were to be shut down gradually. The measures passed as an overall package also included expanding electricity grids faster, improving building insulation and increasing the percentage of green electricity from 19 percent to at least 35 percent by 2020.

The energy transition as a "joint project"

The report of the "Ethics Commission for a Safe Energy Supply" appointed in 2011 by the German Federal Government after the nuclear incident in Japan is the key foundation for the energy transition. It coined the joint project concept of shutting down nuclear power¹ within ten years (by 2022), and taking an ambitious approach to protect the climate. It called for society as a whole to pull together, from politicians, companies and environmental associations right down to scientists and finally all citizens.

¹ which at the time still accounted for roughly one quarter of Germany's electricity supply

At the same time, the Ethics Commission warned against conflicts of interest that restructuring of this kind could be expected to entail: “A collective project on “Germany’s Energy Future” must resolve any conflicts of objectives that arise and incorporate the necessary direct and indirect contributions from all participants, i.e. from energy suppliers and consumers, grid operators, politics, environmental organisations, trade unions and other parties, such as developers of new products.” We must not only call on others to take on responsibility, we must also take responsibility for the consequences of our own actions and decisions. According to the committee, foregoing nuclear power is an ethical imperative, as an alternative power supply has been made technically, economically and culturally possible by research, innovation and civic commitment.

The most important step for expanding wind, biogas and solar energy in Germany is the Renewable Energy Sources Act (Erneuerbare Energien Gesetz – EEG), which was passed in the 1990s and has been reformed continuously since then. The next fundamental change in energy technology and the energy industry is now already on the horizon – the restructuring of the energy system forces us to think and act in new ways all the time.

The EEG was most recently reformed in early July 2016 to enhance competition in expansion of renewable energy sources. As a result, operators of larger wind farms or solar power systems as well as biogas plants will in future no longer receive fixed, legally stipulated compensation for the electricity they feed in. Instead, tenders are being held for installation of new plants. Whoever charges the lowest rate per kilowatt hour is awarded the contract. That promotes competition in this relatively young market.

The challenges of the energy transition

The resolution by the Paris climate conference in November 2015 acknowledges one of the major challenges of our time: restricting global warming to far less than two degrees by 2050, ideally to less than 1.5 degrees.



We have to phase out coal, not today or tomorrow but soon. Renewables are being subsidized, they have to be fed in the grid faster and in larger volumes to replace coal. This process must be completed by 2035.

TOBIAS MÜNCHMEYER
Greenpeace nuclear power expert

Industrialized countries like Germany are historically among the largest producers of harmful greenhouse gases. Their emissions are currently being overtaken by the emerging countries. However, that does not change the fact that Germany bears a special responsibility in the fight against global warming. To reach the ambitious climate goals, fossil fuels in the German energy mix must be reduced significantly and replaced with renewable energy sources – one of the key goals of the energy transition. According to data from the Federal Ministry for Economic Affairs and Energy, renewable energy sources accounted for roughly 32 percent of electricity production in 2015, and this is to increase to 45 percent by 2025 with the current political measures. It is true that the energy transition is a process that will take decades, as it is not possible to convert all buildings to renewable energy and energy saving technologies, for example.

Germany as a whole largely agrees on the necessity of the energy transition. However, the specific implementation is still under debate. Some nuclear power station operators took legal action against the German Federal Government resolution to revoke the phase-out extensions for nuclear power stations after Fukushima. In addition to lost profit, they also wanted the costs imposed on them as part of additional safety requirements to be reimbursed. In its most recent judgement, the Federal Constitutional Court decided that the 2011 Nuclear Phase-Out Act was constitutional.

At the same time, the court also promised the electricity corporations compensation in individual cases. Accordingly, it is clear to Federal Minister for the Environment Barbara Hendricks “that the nuclear phase-out schedule will not be changed.”

“The (nuclear) phase-out is necessary in Germany to exclude the risks associated with nuclear power. Lower-risk alternatives make this feasible. In following this path, Germany must have courage for a new journey, confidence in its own strength and a binding monitoring and control process.”

from the REPORT OF THE ETHICS COMMISSION
FOR A SAFE ENERGY SUPPLY

In addition to the electricity corporations, associations and politicians with private sector-affiliations warn against finally phasing out the supposedly cheaper nuclear power, and also continue to fear electricity shortages and unpredictable costs, and thus competitive disadvantages for companies. Farmers also complain about higher prices due to the energy transition. The prices for agricultural land have increased significantly in some cases, and are threatening the continued existence of agricultural use in some areas. Energy policy is not entirely to blame for this.

So-called land grabbing² plays a role, as does the situation on the financial markets, where the mini-interest rates make agricultural land more attractive. Of course, monocultural farming of rapeseed or corn for alternative fuels and biogas plants also increases land prices.

By contrast, the implementation of the environmental transition does not go far enough for environmental associations and green politicians. A major issue is the distribution of the additional costs from the expansion of renewable energy sources. For example, energy-intensive companies are exempt from the green electricity levy and therefore contribute proportionally less to the energy transition joint project than private households.



By investing billions, Germany has made green electricity affordable and thus globally competitive. In the second phase of the energy transition, we must now combine heat, mobility and electricity based on renewable energy sources.

ALEXANDER MÜLLER
Member of the German Council
for Sustainable Development

As a result, the matter of costs is important to consumers in particular. With the green electricity levy and the grid fees, electricity customers pay a lot for the energy transition. According to the Federal Network Agency, the compensation for renewable power stations from the EEG levy alone is estimated to reach 29.5 billion euros in 2017, offset against just five billion euros in market revenue from this electricity.

In addition to this, the peaks of solar energy in the summer and wind power in the winter months, when the wind is stronger, must be compensated in the electricity grid. Switching off and restarting power stations costs millions, some of which is passed on to consumers in their electricity bills.

Grid expansion is an important prerequisite for restructuring the energy system, to distribute the electricity from renewable energy sources around the country. Of the roughly 1,800 kilometres of electricity cables stipulated in the Grid Expansion Act passed in 2009, only roughly one third has been implemented to date. By 2017, the Federal Network Agency expects progress toward the expansion goal for electricity cables to reach 45 percent. Social resistance is one reason for the halting expansion. Power lines are to be built to transport wind energy from the north to the more industrially developed south. People who live in the areas affected are protesting against this development, which is why sections of the lines are to be buried as underground cables. However, this underground cabling is taking longer than planned and is also significantly more expensive. There is similar local resistance to construction of wind farms and solar arrays, as the protesting groups believe they have a negative effect on the landscape and the systems could harm animals.

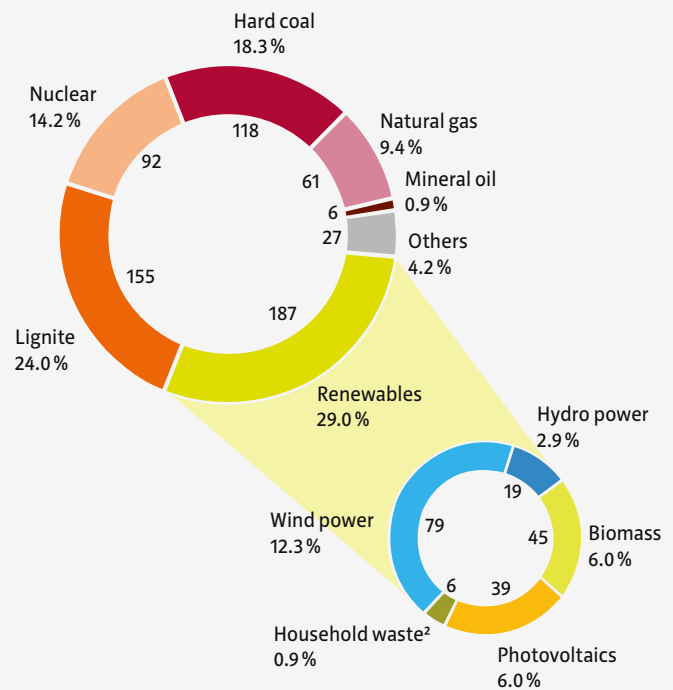
² the still excessive conversion of green fields into settlements

Accordingly, there are not only conflicts of interest when it comes to implementing the energy transition, there is also resistance against ambitious climate protection. This is also apparent in federal policy, in the debates on a climate protection plan submitted by the Federal Ministry of the Environment in autumn 2016. The plan aims to show how Germany reaches its climate goals and makes its contribution to the Paris climate protection agreement. The German Federal Government submitted the resolution in November 2016 for the climate conference in Marrakesh. It specifies how much CO₂ Germany is to save in the coming decades, and also quantifies the contributions of the transport, agricultural and energy generation sectors for the first time.

How can electricity, heat and mobility be combined?

An initial interim assessment appears quite positive: Since 2011, the demand for green electricity rates with renewable energy sources and without nuclear and coal-based electricity has increased rapidly. In the second half of 2012, 81 percent of new contracts concluded were for green electricity. However, to reach the self-imposed targets, the expansion of renewable energy sources must be advanced in areas other than power supply. Fossil energy sources are to be replaced gradually with renewable energy in heat generation, cooling and mobility, too. For example, heating in Germany is still largely based on fossil fuels like oil and gas. That is to change by linking multiple sectors with one another. Power-to-heat is an important

Gross electricity production in Germany in 2015, in TWh¹ Renewable energy expansion – facts and figures



The share of renewable energy in Germany's electricity production is rising every year, from barely six percent in 2000 to over 30 percent in 2015.¹

By 2035, renewables should account for 55 to 60 percent. The German Renewable Energy Act (EEG) remunerates the feed-in of renewables into the grid, while other plans and regulations govern grid extension, efficient energy use and electricity savings. Promotion of research, which advances renewable energy through innovation and technical developments, is a further key aspect. However, aside from power generation, the energy transition must also transform our entire primary energy use. This is an area with substantial deficits. A mere 13 percent of heating and hot water energy is renewable; in the transport sector, the share is even lower at just under five percent.

¹ preliminary figures, some estimates

² renewable share

strategy for the heating sector. These technologies use electricity to generate heat instead of fossil fuels. The more electricity is derived from renewable sources, the more successfully this area contributes to climate protection.

In Germany, roughly 80 percent of energy in private households is used for heating and hot water. As a result, the German Federal Government supports energy refurbishment in particular through low-interest loans and subsidy programmes by the KfW, the German Development Bank. By 2050, all buildings are to be virtually climate-neutral. Among other things, citizens receive advice on energy refurbishment and production of an energy concept. In addition to this, the German Federal Government introduced the energy performance certificate for buildings in spring 2014. Landlords or sellers must inform parties interested in renting or buying a property of the building's energy status. However, the implementation is faltering: Shortly after its introduction, the German Environmental Aid Association (Umwelthilfe) and German Tenants' Association (Mieterbund) criticized that many property providers were ignoring their duty of information. They also alleged that checks by the authorities were insufficient. In spite of this, many citizens are increasingly aware of their electricity and heating consumption due to the increased prices. According to the Indicator Report on Sustainability Strategy energy consumption in private households (excluding fuels) decreased almost six percent between 2000 and 2012, after

having increased steadily in the previous years. In addition to active savings, reasons for the overall lower consumption include improved thermal insulation of buildings and the use of more energy-efficient devices.



The energy transition is both an emotional and complex topic. Emotional, because in the end it is about designing a sustainable energy supply for our children and grandchildren. And of course this requires a focus on the technology, and that makes it difficult to a certain extent. However, I am convinced that the energy transition still has the power to captivate.³

DR. PATRICK GRAICHEN
Director of Agora Energiewende

In future, consumers shall be able to take a more active part in the energy transition. Civic cooperatives are given a fair chance to participate in the expansion of renewable energy sources: If they win a tender for a new green electricity system, cooperatives receive a bonus. Every year, the Renewable Energy Agency also presents the "Energy Municipality" label. Label holders are listed "Atlas of Municipalities"⁴. The atlas documents the growing engagement in energy supply at a municipal level.

³ www.berliner-impulse.de/aktuell/impulse-interviews/interview-mit-dr-patrick-graichen.html

⁴ www.kommunal-erneuerbar.de/de/energie-kommunen/kommunalatlas.html

BEST PRACTICE

Re-imagining a whole district together

SUSTAINABLE REFURBISHMENT OF THE BERLIN'S MÄRKISCHES VIERTEL DISTRICT

The Märkisches Viertel district in the north of Berlin was developed in the 1960s as a model project of modern architecture, and has been home to roughly 40,000 citizens in 16,400 apartments on a footprint of 3.2 square kilometres since 1975.

While architects initially praised the district as a construction project with utmost individuality for its residents, the social problems of monofunctional large housing developments became clear soon after completion: Märkisches Viertel soon made a bad name for itself.

In order to improve the quality of life and make the district more attractive, housing development companies, power suppliers and the City of Berlin have been cooperating closely since 2009. Municipal funds have been used to refurbish social infrastructure facilities and upgrade the public space. At the same time, the municipal housing development company GESOBAU, which owns more than 15,000 apartments in the district, is modernizing all of its portfolio in the area to a higher energy standard and in a socially compatible manner. The modification of the housing estate reduced the CO₂ emissions of the settlement from 3.17 tonnes to 0.26 tonnes. This was achieved by reducing the primary energy by 80 percent. The current needs of families and senior citizens are taken into account with new, modern floor plans and barrier-free designs. In many open spaces, the ground sealing was removed, creating new green living and meeting spaces and as a result increasing the quality of life.

GESOBAU 



It contains information on the projects of the respective municipality, the type of energy use and the stakeholders in the community. “Energy Municipalities” benefit from the value-added effects of renewable energy sources and also increase the opportunities for citizens and companies to participate. Based on the needs and circumstances of their residents and companies, a municipality can promote the construction of solar, biogas, wind power, geothermal or hydroelectric power plants, and thus increase the percentage of renewable energy technologies in the regional electricity mix.

Incentives are also created for rental households to participate in the energy transition. When landlords install solar energy systems on the roofs of their houses and sell the electricity to their tenants, the green electricity levy is reduced or waived entirely. To date, it is largely home owners who benefit from low-cost solar electricity. However, the most recent amendment to the law has generated increasing interest among housing companies in the opportunity to provide low-cost and environmentally friendly rental electricity. A shared solar energy system on the building roof gives tenants many advantages. They save money because this type of electricity does not use the public power grid, so no grid fees are due. The price is also predictable for years in advance. As a result, “tenant electricity” is important for decentralizing the energy transition.

How can we get green electricity onto the roads?

After electricity and heat, the transport sector is the third largest energy consumption area in Germany. However, the energy transition has not had a strong impact here yet, as revealed by auditing company PricewaterhouseCoopers (PwC). This is true both for energy consumption and for greenhouse gas emission. The total energy consumption has only decreased minimally between 2006 and 2014. According to the study, from the current status quo, it is barely possible to reduce consumption by ten percent as planned from 2020 compared with 2005. Likewise, CO₂ emissions only decreased slightly. According to the study, motorized road traffic is the largest greenhouse gas emitter and accounts for 55 percent of CO₂ emissions alone. One reason is that most goods are still transported by road. The percentage of railway companies in goods transport decreased slightly in the past five years, as revealed by the “Indicator Report 2016.” According to the report, the far more climate-friendly railway reaches a market share of approx. 18 percent.

BEST PRACTICE

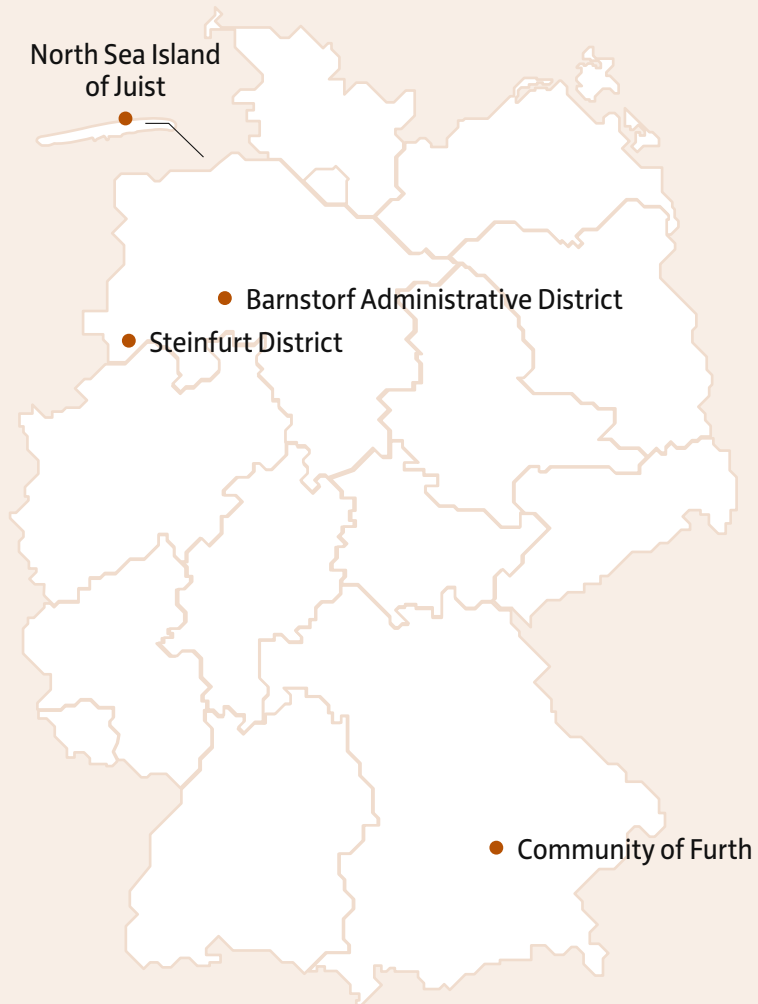
Regional energy transition pioneers

More and more people in Germany are taking the energy transition into their own hands. Municipalities are developing sustainable energy strategies and citizens are organizing themselves in cooperatives to supply themselves with energy.

Over 800 energy cooperatives have been founded for renewable energy sources since 2006. Accordingly, 165,000 citizens are currently decentrally working for an environmentally-friendly energy industry with a total member capital of approx. 655 million euros and a total investment of approx. 1.8 billion euros (as of 12/2015). This allows local citizens to invest in energy projects and become co-owners of these projects.

The percentage of privately and cooperatively generated renewable energy is high. Of 73 gigawatts of installed capacity of renewable energy in Germany in 2012, 34 gigawatts (47 percent) is not from power suppliers or institutional or strategic investors, but from homes, community and participatory initiatives.

It works on a small scale, too: The Bürgerwerke start-up company brings together more than 12,000 citizens and 62 local energy associations from around Germany, to supply people with renewable civic electricity from solar, wind and hydroelectric power. They implement the vision of a renewable, regional and autonomous energy future in the hands of the citizens.

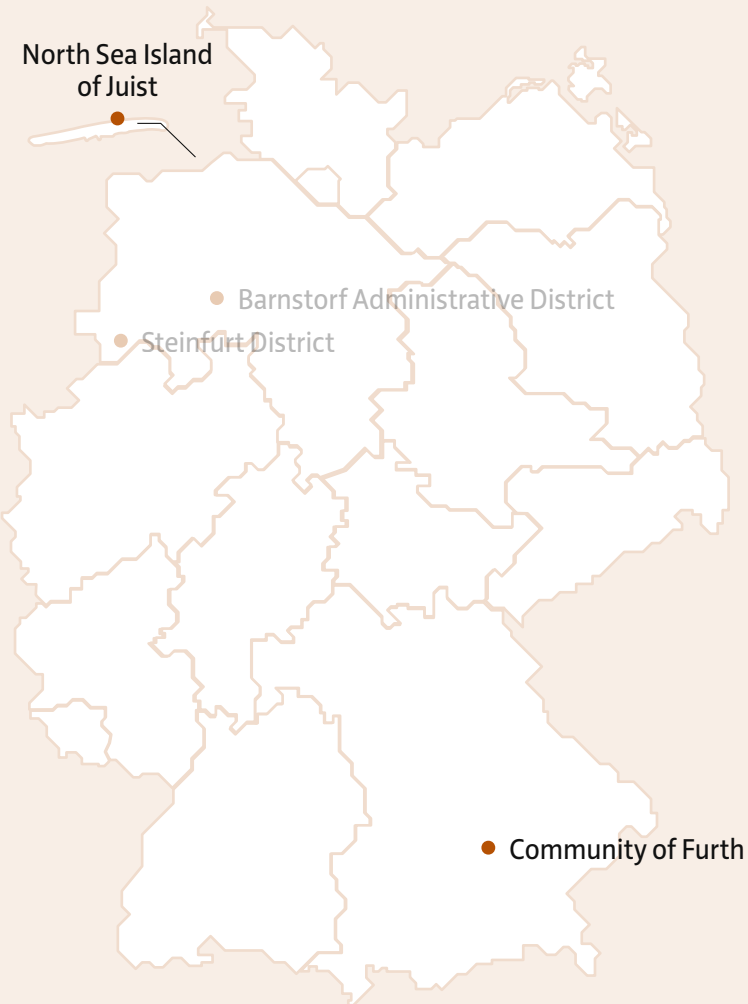


BEST PRACTICE

Regional energy transition pioneers

COMMUNITY OF FURTH

The Community of Furth focuses on sustainability criteria when preparing its budget. All measures are borne by strong civic participation. Today already, 80 percent of the electricity and heat supply is provided by renewable energy sources – the goal is 100 percent. Measures for this include many small wood chip, pellet and bulk good furnaces, a biogas-fired local heating system with combined heat and power and a solar collector system for heating water. Germany's densest decentralized network of photovoltaic systems and an energy saving concept that has also decreased the energy consumption of the street lighting by 80 percent also have a sustainable effect. The entire centre of the village is heated with a wood chip thermal power station that is fired with cut wood from gardens collected by the citizens. This uses garden waste sustainably, preventing it simply being burned in the open. In an additional measure, former fields and meadows were expanded naturally to flood protection plains and planted with several thousand deciduous trees, whose wood yield is also used for the wood chip thermal power station. A municipal company emphasizes sustainable land management in particular. Leisure, health and educational institutions are located intentionally to boost the quality of life for all age groups.



NORTH SEA ISLAND OF JUIST

The North Sea Island of Juist aims to be the first tourist destination to achieve climate-neutral status by 2030. To reach this goal, the island is to be supplied with renewable energy sources. The existing buildings are to be converted to micro-power stations and the electricity grid is to become an energy sharing grid using new storage technologies. The island is also car-free – persons and goods are transported by horse and cart only. The particular challenge for tourist destinations is that the number of people on the island increases to many times the number of inhabitants in summer due to the influx of tourists. That is why Juist is focusing on boosting tourist awareness with specific information on environmental topics.

BEST PRACTICE

Regional energy transition pioneers

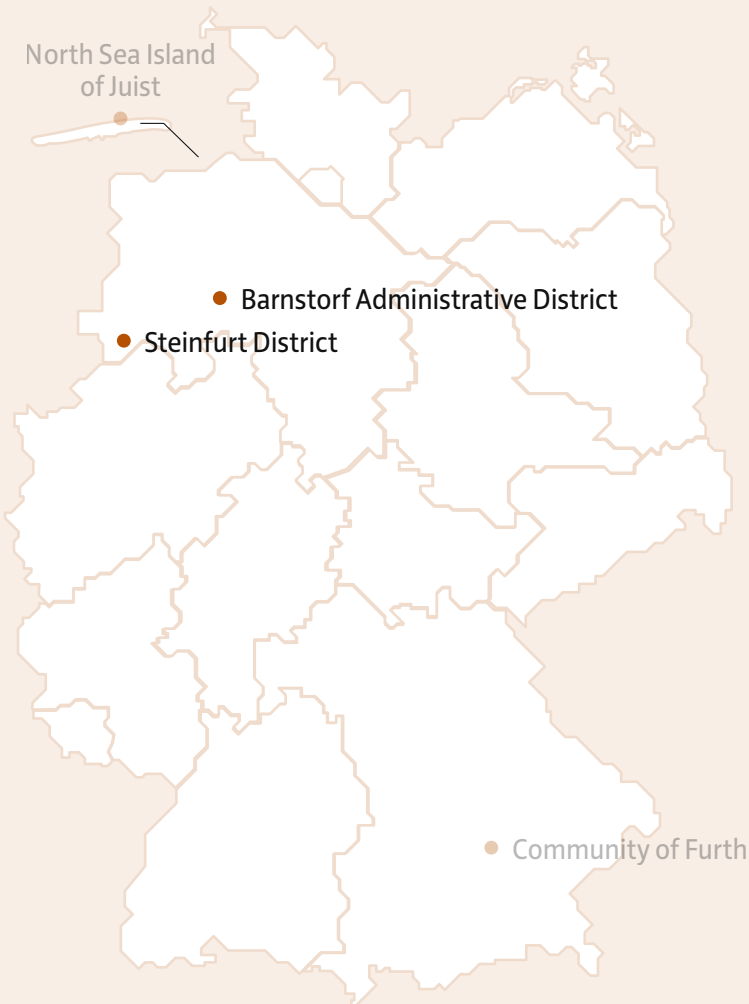
STEINFURT DISTRICT: ENERGIELAND2050

The district of Steinfurt consists of 24 municipalities and is home to more than 443,000 people. The entire district has set itself the goal of being energy-autonomous by 2050. To achieve this goal, an integrated climate protection concept has been drawn up. It is subsidized by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety through the "100% Climate Protection Master Plan". Steinfurt is also a model project for a "Globally Sustainable Community." The goal is to reduce the CO₂ emissions by 95 percent compared with 1990. For this purpose, 21,000 households were supplied with green electricity, 400 energy ambassadors were appointed to share the concept and members of 23 households were named "climate protection citizens." Climate protection citizens were given the opportunity to try out a sustainable way of life for one year, reducing CO₂ emissions by 70 tonnes. In the comprehensive energy concept, photovoltaic systems produce roughly 170,000 megawatt hours of energy. By 2050, this figure is to rise to 1.8 million megawatt hours. In order to promote solar energy, Steinfurt has created a free solar land registry. For wind energy, roughly 260 wind turbines are currently installed. The bioenergy strategy includes three existing biogas plants and two wood chip power stations.

The Climate Protection and Sustainability Office of the district of Steinfurt has focused for many years on the areas of civic action and energy efficiency. The office is establishing interdisciplinary networks around these areas, incorporating the municipalities in the District of Steinfurt, activating the private sector and organizing intensive civic involvement.

BARNSTORF ADMINISTRATIVE DISTRICT

A successful example of municipal implementation of the energy transition is the Barnstorf Administrative District, with roughly 12,000 citizens. The integrated climate protection concept of the municipality plan aims to provide the energy it requires from renewable energy technologies by 2025. To achieve this, the public infrastructure is being modernized: A new cooperative builds civic solar energy systems on public buildings, lighting concepts are being implemented and school buildings are being heated with renewable energy. The cooperative measures have been turning profits since 2013, reducing the debt by 800,000 euros each year.



In order to make the transport sector more environmentally friendly, there are therefore major efforts to electrify it and make it more independent of fossil fuels. Most trains already run on electricity. By 2020, Deutsche Bahn AG aims to increase the share of renewable energy sources used for rail transport to 45 percent. The corporation is the largest railway company in Central Europe and aims to use carbon neutral railway electricity by 2050.



The German energy transition and global climate change call for political courage to choose new ways of thinking and lifestyles. It is not only a major technological change, it is also a major democratic experiment in participation of consumers as committed citizens.

PROF. DR. FRANK TRENTMANN
Professor of History, Birkbeck College,
University of London

Politicians have created incentives to ensure that more and more electric vehicles are underway, not just on the rails, but also on the roads: Buyers of electric vehicles are subsidized with a purchase bonus, and the charging infrastructure is to be expanded rapidly, as electric vehicles are still quite expensive and charging stations are not widely available. According to the plans of the German Federal Government, at least one million electric vehicles are to be on Germany's roads by 2020. As the PwC study shows, hybrid vehicles currently have the best chances of succeeding on the markets, as these vehicles in particular could bridge

the problem of the still relatively low battery range in electric vehicles. Use of overhead wiring on motorways is currently being tested for lorries. Liquid natural gas is also used increasingly frequently by heavy goods vehicles. Together with bio-methane, it helps supersede environmentally harmful fuels. According to the Federal Ministry of Transport, in 40 years, urban transport will be almost completely fossil fuel-free.

Signal effect for other countries

From an international perspective, the energy transition has become a recognized reference. On one hand, it triggers curiosity and genuine interest, and on the other scepticism, as revealed in the 2015 study "Germany in the eyes of the world" by the "Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ)". In particular the nuclear power phase-out and the associated costs are met with incomprehension. However, the belief that the Federal Republic of Germany will reach its ambitious goals is great overall. According to the study, especially countries with a lot of potential for the generation and use of renewable energies are willing to learn from a successful German energy transition. As Europe's largest industrial nation, Germany has a special responsibility.

The German Federal Government supports the expansion of renewable energy systems in over 70 partner countries. In 2014 and 2015 alone, the German Federal Ministry for Economic Cooperation and Development subsidized environmentally friendly energy projects with over four billion euros.

Germany primarily supports approaches that incorporate the entire energy system of a partner country. In this way, one of the largest solar farms in the world was built in sunny Morocco with the cooperation of the Federal Republic of Germany.

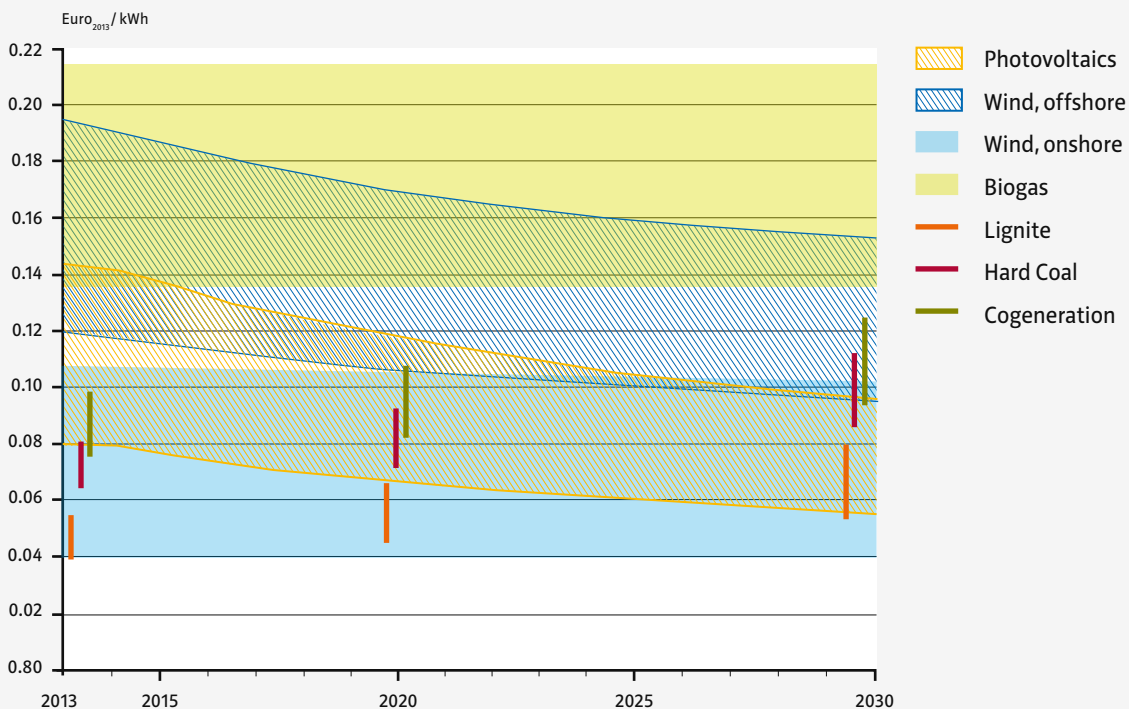
A German-Indian energy programme is also assessing how India can better integrate its growing electricity supply from environmentally friendly

energy into the national grid. In addition to this, the German Federal Government supports developing countries in implementing their nationally determined contributions (NDCs) to climate protection, in accordance with the 2015 Paris climate agreement.

Greece is one example of practical aid in restructuring the energy system. The German Federal Government supports Greek islands in expanding solar and biogas systems so that they can meet their electricity requirements completely independently from the mainland with renewable energy sources. To date, these islands still use many polluting diesel generators.

Projection of electricity generation costs in Germany until 2030

By the end of the next decade, electricity generation costs incurred by PV systems will drop to between EUR 0.055 and EUR 0.094 per kWh



As of Nov. 2013

Source: Fraunhofer ISE, Stromgestehungskosten Erneuerbare Energien (electricity generation costs, renewable energy)

Is the energy transition a success?

The 2016 “Indicator Report” states that Germany has had significant success in meeting its climate targets. However, it also expressly points out that the greenhouse gas emissions must be reduced equally in all sectors and that all parts of society must make their contribution. The energy transition thus clearly requires a fundamental rethinking in many areas. Entire industrial sectors must switch to a more sustainable business model. Some companies will be confronted with massive business losses. Where coal mining is coming to an end, jobs are lost. Energy-intensive industries like the chemical or steel industry have feared competitive disadvantages for years as a result of rising electricity costs and a movement of companies and labour to other countries. However, the economic figures for 2016 point to a significant increase in turnover and profit for key German industries.

Contrary to the apprehensions, expenditure for energy in the economy and in private households has decreased in recent years, as shown by the 2015 “Monitoring Report on the Energy Transition” by the German Federal Ministry of Economic Affairs. The declining oil and gas prices on the international markets played a major part in this, but the Renewable Energy Sources Act also had an impact, according to the report. Remuneration rates decreased and the expansion was focused on cost-effective technologies, which led to a decline in electricity prices overall. According to the Federal Ministry of Economic Affairs and Energy, Germany produces more

electricity than it consumes. In 2015, German electricity exports reached an all-time peak at 60.9 terawatt hours. This is equivalent to roughly one tenth of the electricity produced in Germany.

Wind energy and in particular photovoltaics have undergone technological developments that make them competitive against fossil fuels and even more so against nuclear energies. High-yield locations already reach electricity generation costs of three to four cents per kilowatt hour of renewable energy today. Germany is also approaching costs as low as these.

A virtually complete coverage of the energy demand with renewable energy sources is not an unrealistic utopia, it is a real cost-effective alternative and also good for climate protection and the economy. More than 30 percent renewable electricity has already been integrated successfully into the existing grid, without the anticipated blackout. Globally, renewable energy sources have triggered massive investments and thus contribute to generating the electricity required in developing countries with modern, cost-effective and climate-neutral renewable energies.

The change is a major opportunity outside the energy industry, too. In conjunction with science and research, the energy transition creates new companies that develop innovative products and create new jobs. “14 percent of the environmental technology produced worldwide now comes from Germany,” explained German Minister for Research, Johanna Wanka. A study commissioned by the Federal Ministry of the Environment concluded that the macro-economic benefit far exceeds the costs of the measures for the Climate Protection Action Programme 2020. In this context, the study forecasts additional growth in the gross domestic product of roughly one percent. The employment effect is specified at 430,000 additional jobs in 2020. Federal Minister of the Environment Barbara Hendricks explained: “The climate action programme serves as an economic growth package.”

The former Federal Economic Minister Sigmar Gabriel points out that promoting green electricity acts as a “major modernization programme” for the German economy. He adds that it has already created 300,000 jobs.

Accordingly, the energy transition seems affordable as an investment in the future and an important economic factor in Germany. The course is set. The joint venture “energy transition” is on the right path as a joint project – but there is still a lot to be done.



Other publications of the German Council for Sustainable Development

- Making the Energiewende a success story thanks to strong local authorities

Prof. Klaus Töpfer

FORMER MINISTER FOR THE ENVIRONMENT, NATURE CONSERVATION AND NUCLEAR SAFETY

“*We must
take action now*”



INTERVIEW

PROF. KLAUS TÖPFER
FORMER MINISTER FOR
THE ENVIRONMENT,
NATURE CONSERVATION
AND NUCLEAR SAFETY

Professor Töpfer, the energy transition is a controversial subject. In your opinion, will the energy transition be successful?

Of course, it will be successful. We have made great progress: At present, we are generating over 30 percent of our electricity from renewable sources – a massive increase over the last ten years. The costs of harvesting sun and wind power have come down over time and are already competitive at the international level. Increasingly, this is also true for the associated systemic costs. In regions with more sun and wind than Germany, renewables are by far the cheapest energy sources. According to the International Energy Agency, global investment in renewable energy has already outstripped traditional energy in the last two to three years. Hence, there is no reason to doubt the success of the energy transition. However, insistent critical voices are

*Of course, it will be successful.
We have made great progress.*

important. The question how many grids we need will be repeated again and again. Actually, the real question will be: How is decentralized electricity generation developing? All these issues are part and parcel of major infrastructure restructuring. After all, we are not just making marginal modifications but fundamental changes to the entire energy system. Of course, this also meets with some resistance.

At present, what are the main challenges associated with the energy transition?

The biggest challenge today is certainly how to use fluctuating electricity volumes in a way that their full contribution to the energy transition can be ensured. In 2015, we had 25 full days with negative electricity prices. On these days, we generated so much green electricity alongside the must-run power stations¹ that we ended up with a surplus. We export over 50 terawatt of electricity a year – that is an unbelievable export record! Hence, the big challenge is how to balance production and use. Of course, this also involves combining the energy transition with the transport transition. How can we achieve this sector linkage? And ultimately, this is closely connected to the important issue of a better financing system. At present, only electricity customers pay for the development of renewables while the beneficiaries will also include those who will, hopefully, soon drive electric cars. Sector linkage is also urgently required in terms of financing.

¹ For reasons of grid stability, such power stations run whether their electricity is needed or not.

INTERVIEW

PROF. KLAUS TÖPFER
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THE ENVIRONMENT,
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Which structural changes has the energy transition already brought about in Germany?

A large part of the German population is once again considering energy supply as their own sphere of activity. They are actively involved again – this is an immense gain for the open society and a restoration of responsibility to the citizens. In the future, this trend will become much stronger: We will have a lot more self-generation and self-sufficient households and buildings. As this development progresses, new questions will come up: How do we design the façades and roofs of our houses? Extensive research into the use of roof tiles as active solar elements shows that this energy transition is a veritable fountain of youth for new technologies, which has already proved of great value. We should not disappoint those who have taken on responsibility, and ensure that reliable policies will continue to implement our essential goals. The energy transition has developed into a highly attractive business case – never mind that it is inevitable for climate protection reasons alone.

Why do you consider the energy transition as a 'preventive peace policy' at the international level?

With the world population set to increase to nine billion people, we know that economic development must progress as a fundamental prerequisite for social stability and peaceful coexistence. This also includes energy. I spent eight years at the central office of the UN Environment Programme in Africa. Of course I experienced on a daily basis that poverty is first and foremost a scarcity of energy.

The energy transition has developed into a highly attractive business case.

Unless we overcome this scarcity, we will not have a peaceful future. Just consider the fact that in Germany the per capita income according to GDP is 45,000 to 46,000 euros, while the per capita income in some African countries is 1,000 euros. A peaceful world is not possible as long as there is no real development in these countries, and energy is a central prerequisite. In this respect, energy sufficiency is an elementary contribution to a peaceful future. Without doubt, our blue planet is capable of sustaining nine billion people if we overcome existential poverty and create a liveable future. This requires technological progress at a broad level, as well as a reassessment of our lifestyles combined with smart self-restraint. Sufficiency, just like closed loop economy will no longer be an alien concept.

INTERVIEW

PROF. KLAUS TÖPFER
FORMER MINISTER FOR
THE ENVIRONMENT,
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You often quote Pope Paul IV who said that "development is the new name for peace."

If you believe that the energy transition is closely linked to policies of peace, why is it such a rocky path? The phasing-out of coal, which still accounts for 45 percent of German electricity demand, seems to be rather problematic, for instance in the Lausitz region ...

The government's widely supported climate concept is not feasible without a gradual reduction in coal-fired electricity generation. This development has substantial consequences for people in the Lausitz or Rhine regions, who have been working and thriving on coal for generations. We must do everything in our power to ensure that the phase-out is socially acceptable, that these regions are not left behind and that new dynamics are initiated in these regions. In a prosperous country like Germany, this should not be an insurmountable problem.

But let us also consider the

I experienced on a daily basis that poverty is first and foremost a scarcity of energy.

geopolitical aspects: At present, we import crude oil and natural gas worth 30 billion euros a year from Russia. When these imports are gradually reduced and hence become substantially smaller, what are the adjustments that will have to be made in the country of origin? And what are the adjustments that will have to be made in general in a world that has been exclusively relying on fossil fuels? This is a subject we are not giving enough attention to. I believe that this subject is as important, if not more so, for a peaceful development of the world

and it is this thinking that will allow us to implement a regionally compatible transition even in the field of brown coal.

How important is international cooperation in terms of the energy transition? Which initiatives do you consider most promising?

Where global issues are concerned, cooperation makes sense to everyone. Germany contributes approx. two percent to global greenhouse gas emissions. Even when we arrive at zero emissions, the problem is not resolved. We must come up with contributions that also allow others to pursue committed energy policies without affecting economic development. That's why I consider renewable energy, cooperation, solidarity, the Green Climate Fund, to be crucial.

In which areas can Germany learn from other countries?

In all areas. There is a certain worry that we have a tendency for backslapping and claiming that everything is clean and orderly in Germany. If one looks at the 17 SDGs, the Sustainable Development Goals, it is clear that there is still a lot to be done. We import the equivalent of approx. 60 million hectares of land via the import of goods produced abroad, for instance in the form of concentrated feed for animals, which are subsequently exported. Can this be called sustainable? We observe that this is associated with substantial problems in terms of liquid manure disposal and groundwater. Can this be called sustainable? And what about consumption? Every year, we

INTERVIEW

PROF. KLAUSTÖPFER
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throw out up to 10 million tons of food. Can this be called sustainable? How do we approach these problems? In his encyclical, the Pope has aptly pointed out that food thrown out is like food stolen from the table of the poor. This conduct is not sustainable and there is a lot we still have to learn: How much energy do we consume? Over ten tons of CO₂ per capita, soon to reach eleven. Can this

What we need to do NOW is give our best to pay for the presumably negative impact of our prosperity in current prices and divest ourselves of our selfishness.

be called sustainable? I could list numerous areas where we must learn to change. That is why the SDGs are applicable at the global level and are also valid for us. There is a lot to do in Germany, with Germany and for the world.

If you look back: What was the situation when you were Minister of the Environment? Would you have believed that something like the energy transition was even possible?

I have learnt a great proverb in Africa: The best time to plant a tree was 30 years ago. The second best is now. Now is when we can and must take action. In 1990, when I was Minister of the Environment, we passed the first grid feed-in act². You could give yourself a pat on the back, but what would that achieve? NOW is the time to demonstrate that this is competitive energy. NOW is the time to prove that we can live on a sustainable basis, that we can de-carbonize and that we need less material to maintain

prosperity, that we can close loops. All of this started then – now it is common knowledge. Sustainability almost runs the risk of degenerating into a fashionable article whose substance is no longer sufficiently questioned. All things considered, the question "Couldn't we have done this earlier?" becomes a purely academic one. The question NOW is: Have we actually learned enough to avoid waiting around again? Most likely, in ten to fifteen years, those in charge will say that this could have all been done much earlier. There will always be new problems to tackle. Each generation has found itself reflected in its children's and grandchildren's generations who had their dreams, their concepts of the world and who tried to realize their dreams. That is what keeps humanity moving. What we need to do NOW is give our best to pay for the presumably negative impact of our prosperity in current prices and divest ourselves of our selfishness. This is what we need to do right now. In Germany, too, there will always be new problems to tackle. However, as someone who will soon be 80, I attach great importance to the fact that my grandchildren, who are four years old, will possibly live in a world in which 100 is a normal age, just like 80 is now.

To conclude, please give us a brief statement. For me, sustainability is ...

... trying my best to pay for my prosperity at the price it actually costs. Trying my best not to live at the expense of others.

² statutory regulation on remunerated purchase of renewable energy by public electricity supply companies



DISCUSSION:

THE ANTHROPOCENE CONCEPT

Friend or foe of sustainable thinking?

Humans have become a geological factor: We clearly live in the Anthropocene era – the “age of responsibility,” when everyday actions have an impact that reaches far into the future. But why are the environmental community and the “sustainability scene” hardly involved in this debate? Do the Anthropocene concept and the philosophy of sustainability contradict one another? Could the Anthropocene concept even pose real threats to sustainable thinking?

An Essay by CHRISTIAN SCHWÄGERL

In geological terms, the earth was one great wilderness just a few moments ago. Human civilization only populated tiny islands in a largely untouched nature. The dark side of the planet was black, vast quantities of crude oil and coal lay untapped and unused under the earth’s surface. The spread of human civilization changed this fundamentally. After two centuries of industrial revolution, the earth is a different one: Today, it is the wilderness that forms islands on an earth’s surface dominated by people. The dark side of the earth glows in the light of immense cities and the atmosphere is filling with carbon dioxide, because humans burn billions of tonnes of coal, oil and natural gas each year.

Since 2009, scientists have been trying to document not just individual aspects of this upheaval, but to generate an overall impression. In their research, the scientists in British geologist Jan Zalasiewicz’s team laboured over calculations that show that global warming will cause the earth to skip its next ice age.



They gathered a wide range of statistics, including the fact that enough concrete has already been produced to unload one kilogram of it on every square metre of the earth's surface, and enough plastic to wrap the entire earth in foil.

Humans are not only scratching the surface of the earth, they are changing it fundamentally, globally, and in particular with extremely long-lasting effect.

They also studied the long-lasting scratch marks dragnet fishers leave on the sea bed, and even sought to find out where the remains of billions of chickens and other farm animals end up.

They compiled all of this data in long lists of environmental changes. However, the researchers' deliberations focused on a special question: How long will the after-effects of these human influences persist? Will their tracks be wiped away over time? Or will a researcher working on earth in 100,000 or 100 million years still be able to measure them?

This ambitious research project was inspired by a man to whom humanity owes a great deal: Atmospheric chemist Paul J. Crutzen made a major contribution to our understanding of risks to the earth's ozone layer from synthetic chemicals and prohibiting the most dangerous substances in the well-known Montreal Protocol. For this achievement, Crutzen and two other scientists were awarded the Nobel Prize for Chemistry in 1995.

The discovery that innocuous man-made substances could destroy the earth's atmosphere was a great personal shock for Crutzen. This led to the memorable moment in 2000, when Crutzen interrupted two colleagues talking about the Holocene, the current official geological age, at a scientific conference in Mexico. Geologists estimate that the Holocene started at the end of the last ice age almost 12,000 years ago. "But we no longer live in the Holocene," said Crutzen to his colleagues, "this is the Anthropocene." A bold statement: Humans are not only scratching the surface of the earth, they are changing it fundamentally, globally, and in particular with extremely long-lasting effect.

Jan Zalasiewicz's Anthropocene Working Group set itself the goal of testing Crutzen's hypothesis. The seven-year study led to a virtually unanimous vote by 35 scientists in August 2016: Yes, humans have become a geological factor; yes, what we do today will have a lasting effect and remain measurable. The group's message was that humans are no longer changing the planet and its biosphere on their own, relatively small historic scale, but on the major geological scale.

Accordingly, what we do today will continue to have a greater effect than we can even imagine. Concrete, isolated metals and rare earths will be found in stone of the future like radioactive isotopes from the atom bomb explosions, chicken bones will be preserved like dinosaur bones, mobile phones and other machines will even become "technofossils."

This reflects the massive decrease in biodiversity, the fact that certain species will no longer be found as fossils in future. In their place, there could be new organisms introduced by humans to foreign continents or even organisms created synthetically in laboratories.

However, it was and remains remarkable that, unlike science and the cultural sector, environmental associations and the "sustainability scene" in general have kept their distance from the Anthropocene concept.

After the natural scientists, cultural and humanities researchers started around 2010 looking into the Anthropocene hypothesis. As a result, major projects were initiated to investigate and debate the implications of the Anthropocene concept at the Deutsche Museum (German Museum) in Munich, the Haus der Kulturen der Welt, HKW (House of Cultures of the World) in Berlin, at multiple Max Planck Society Institutions and at the Institute for Advanced Sustainability Studies (IASS) in Potsdam. In a two-year period, the "Welcome to the Anthropocene" exhibition at the Deutsche Museum attracted almost 200,000 visitors, while tens of thousands also took part in the HKW's "Anthropocene Project."

However, it was and remains remarkable that, unlike science and the cultural sector, environmental associations and the "sustainability scene" in general have kept their distance from the Anthropocene concept. While even conservative politicians view the Anthropocene as a new paradigm for the relationship between humans and the earth, the German and international environmental community have hardly joined in the debates on this.

Why could that be? Is the geological dimension not considered relevant for nature conservation? Do the Anthropocene concept and the philosophy of sustainability contradict one another? Or could the Anthropocene concepts even pose real threats to sustainable thinking?

If we look at the phenomenon unilaterally, we could indeed answer yes to all three questions. At a time when we have just a few years to reduce greenhouse gas emissions, every year counts in combating climate change that threatens our very existence, a geological time scale would initially appear irrelevant. The drama of rising sea levels and withered harvests will unfold in our own lifetimes, not over millennia. In such acute danger, it cannot actually be helpful to consider the perspective of a hypothetical geologist in a million years. In addition to this, environmental activists are fighting to preserve one's life. Stone-based geology is of secondary importance.



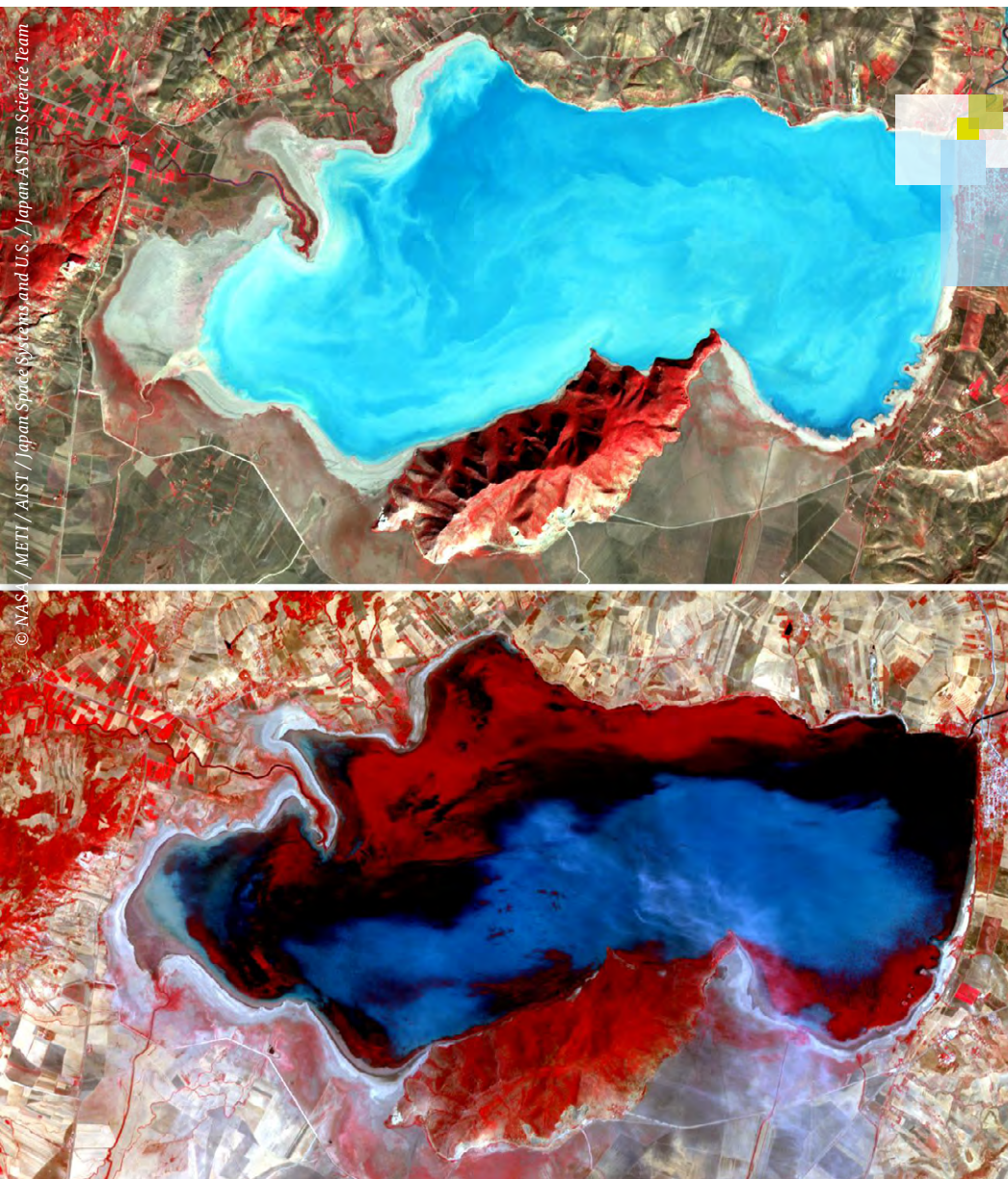
NASA satellite image of the Rhine lignite mining region

A contradiction between the “Anthropocene” and sustainability concepts appears evident. While the normative sustainability concept results in specific maxims for the economy, the Anthropocene diagnosis is initially at most descriptive, a sober characterization. In the worst case, it could be construed as a form of authorization: Look, the earth now belongs to us humans, we are the masters of its development and can do whatever we want with it! That does not narrow the gap between humans and nature, a basic problem of western thought, it widens it.

An American group known as the eco-modernists confirms exactly this suspicion: They use the Anthropocene idea to call for a “conscious decoupling” of humans and nature with high technology.

And doesn’t Anthropocene sound like “anthropocentric” anyway? Does this mean that we should focus even more on ourselves and ignore the flora and fauna we share the earth with even more effectively? The idea, it would appear, is to make man the measure of all things, and pursue our goals with large-scale technological solutions. It is appropriate that Paul J. Crutzen – shortly after he coined the term “Anthropocene” – called for research into artificial geo-cooling technologies (geo-engineering). Anyone who views the earth as an artificial product is going down a dangerous road that could put an end to any form of nature, and even mark the introduction of human breeding.

While the sustainability concept contains ethical maxims and makes concrete demands, the Anthropocene idea could serve the opposite purpose. By declaring “anthropos,” the human as such, the master of climate change and decreasing biodiversity, “Anthropocene” could be responsible for removing evidence from the crime scene and impose the greatest possible collective liability: Whether you are an Indian small farmer consuming the bare minimum or an American SUV driver pumping tonnes of CO₂ into the air – everybody is responsible in the Anthropocene.



**NASA satellite image
of Ichkeul Lake in Tunisia**
(Top: 2001; bottom: 2005)

To counter this problem, we would have to choose another term, e.g. “Capitalocene” or “Westocene” to name the real culprits.

The view turns entirely negative if we view the Anthropocene solely as the sum of all environmental problems, as something that simply sums up the insanity of destructive management in a single word. If that were the case, an anti-Anthropocene movement really would be necessary. The best option would be returning to the Holocene!

These and other reasons contribute to a deep-seated skepticism about the Anthropocene concept. The deliberations below do not aim to paint these reservations as unjustified. A pluralist and open discussion of this literally epochal topic is important. Even if scientists were to accept the geological hypothesis, individuals and society as a whole are entitled to debate it.

In January 2016, Jan Zalasiewicz's Anthropocene Working Group even called for a debate of this kind itself, when pointing out, as though calling for help, that we are faced with the first new geological age, "which is a consequence of our own actions." According to the authors, this means that recognition of the Anthropocene is significant "far beyond the geological community." However, for each of the criticisms mentioned, a totally different interpretation of the Anthropocene concept is possible – in a way that eliminates the purported contradiction to sustainability.

As the old Japanese saying goes, "If you are in a hurry, take a detour." Accordingly, due to the urgency of ecological problems it could be particularly important to consider larger time dimensions. The focus on geology (instead of just on biology as previously) helps reach the roots of current environmental problems. This includes the fact that geology as a science itself has contributed significantly to our current

By reflecting this development, the Anthropocene concept goes back to the roots of current environmental problems.

problems: Generations of geologists were trained to dig mines, mine ores and fossil fuels, create landfills for waste in a close alliance with large-scale industry. Also, it was primarily geologists who called global industrialization in the 18th and 19th century as the logical continuation of the history of the earth to date. Our linear concept of time and belief in progress have shaped geology as a discipline just as much as the still troublesome alliances between

scientists and those in power. By reflecting this development, the Anthropocene concept goes back to the roots of current environmental problems.

The large time scale that geology covers could also make the current environmental problems seem worse rather than better: Until now, many people, including many classic environmental activists, reassured themselves that "nature" would "recover" if humans were to become extinct that only superficial scratches would remain. By contrast, the Anthropocene concept states that our current actions have epochal consequences, and nothing in the future of the earth will be as it would have been without humans. As a result, the German Advisory Council on Global Change (WBGU) has called the Anthropocene an "Epoch of Responsibility." You could also call it the age when even the most minute everyday actions will have an impact unbelievably far into the future. As a result, every time we drive a car or buy a gadget, we perform a geological act.

In no way the Anthropocene hypothesis suggests that human egoism and major technologies are to dominate the future. On the contrary, in 2007, the Anthropocene pioneers Paul Crutzen, Will Steffen and John McNeill already described how, after the previous destructive beginning, a third phase of the Anthropocene will set in, where humans will act as careful "shepherds of the planet" and learn that their civilization is an integral part of the geosystem. Crutzen has long since clarified that he is not proponent of geo-engineering and that it is not an excuse to forego active climate

protection. He only believes that research is required in this area, as he fears that climate change could have catastrophic consequences far faster than many believe possible, and it is essential to have some kind of back-up plan.

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When ecomodernists or other groups attempt to abuse the Anthropocene idea for their one-sided purposes, the best way to expose them is in a pluralist discourse. Even Crutzen does not claim to have the one and only valid definition. In the words of science historian Jürgen Renn, the Anthropocene is a "process that reflects on itself." There lies the real opportunity of the new paradigm: While today, relatively small elite powers determine the future of the earth, the word "anthropos" could be interpreted as an entitlement of all humans to participate in this process, and that the interests of future humans must also be considered – even if this entails offering them the broadest possible range of options to make a decision. By naming the new geological age, humans themselves include all dimensions of sustainability, not just the ecological, but also social and economic. For the social dimension, it is important that the universality, e.g. of human rights or the participation options mentioned above, be reflected. For the economic dimension, the message of the Anthropocene concept is that every form of economy is part of

a greater geo-economy, i.e. a global ecology. Economy must not be pursued as a purely extractive principle, as is currently the case in capitalist doctrine. The Anthropocene is an immense challenge to economists to develop new principles that adequately represent the value of nature, for example, without making ecosystems themselves objects of speculation. The greatest as yet unsolved problems of the Anthropocene philosophy are in particular the social and economic dimensions.

Similarly, this also turns upside down the criticism that the Anthropocene concept separates humans and nature to an even greater extent. The fact that it defines humans as an integral part of the geosystem refutes this argument. It qualifies, not strengthens, the ancient dualism of man and nature. Culture and nature, two parameters that had been distinct until now, are combined in a new way: If a megalopolis spans hundreds of kilometres, it must function ecologically like nature. Untouched nature has become touched nature. The question now is whether we will continue our brutal attack or learn to treat nature more gently. This is no longer primarily about the extent of our ecological footprint, but whether it is a beautiful footprint that could transform into a new biotope. When architects design cities today that generate food and renewable energy themselves, and offer habitats for animals and plants in addition to humans, this breathes life into the idea of the integrated geo-system.

An integrated view like this reveals the manifold dependencies, connections and relationships between human and other beings. Paradoxically, the effect of the Anthropocene idea could be that an anthropocentric philosophy yields to an awareness of our existential rooting in geological, physical and biological processes. The fiction of neo-liberal economy, that humans operate separately from a worthless nature, is already contradicted by the Anthropocene concept today. That, too, makes it a partner of sustainability.

Precisely because the problems are so great, the sustainability concept and the Anthropocene idea can bring to life a practical optimism in a complementary way.

This leaves the fundamental question of whether the Anthropocene itself is inherently bad. The American environmental journalist Elizabeth Kolbert warned that the words “good” and “Anthropocene” should never be used in the same sentence, simply because it stands for all environmental problems. But is that true? Does such a perspective not mean surrendering in the face of problems and leaving an inevitably dark future for the younger generation?

Precisely because the problems are so massive, the sustainability concept and the Anthropocene idea can awaken a practical optimism in a complementary way.

If it is nothing less than a geological epoch, then we today are the prehistoric men of the future, and will be looked back on in the distant future: Were they primitive barbarians who destroyed the basis for their own lives in spite of all the technology? Or were they clever and sensitive predecessors, who made the right, sustainably good decisions in the moment of crisis? Despite all of the differences, sustainability as a normative principle and the Anthropocene concept as a new perspective on an earth shaped by mankind can enhance one another.

CONFLICT AND CONSENSUS

Debate is part of sustainability



MARLEHN THIEME

Chairwoman of the German Council
for Sustainable Development



PROF. DR. HUBERT WEIGER

Chairman of Friends of the Earth
Germany



KATHRIN MENGES

Vice President Human Resources
and Chairwoman of the
Sustainability Council at Henkel

Are we taking the right path?

Debate with MARLEHN THIEME, KATHRIN MENGES and PROF. DR. HUBERT WEIGER



© Martin Joppen

Roughly 15 years ago, sustainability was still a specialist subject. Today, almost all larger companies have committed to the vision of sustainable development. Even discounters sell organic produce. Can that be considered a success? Or has the term lost its meaning?

MARLEHN THIEME: We have accomplished a lot since the Brundtland Report, published almost 30 years ago, but it is still not enough. People's awareness of sustainable development has grown, which is positive, even though it was not always based on understanding and respect for subsequent generations or the people in the one world. For example, taste or health consciousness also might play a role in consumption of organic products. In recent times, environmental crises and the wave of refugees have contributed to the change in awareness.

The long-term preservation of the natural resources worldwide must become the basis for our social and economic development.

HUBERT WEIGER: Yes, it is good that the demand for organic products has increased as it has, and that they are widely available – just as it is good when more people in cities use bicycles, when more and more people come together in repair initiatives, and environmental awareness rises. However, taking organic farming in particular as an example, the need to clear the political backlog by creating an appropriate framework is obvious: In spite of the high demand for organic farming products, the long-term aim of the Sustainability Strategy – organic cultivation of 20 percent of agricultural land – has not been reached.

The actual meaning of the term sustainability can be restored if we make it clear that long-term preservation of the natural resources worldwide must become the basis for our social and economic development. That is the only way to account for the limited resources and the limited capacity of our planet. Accordingly, the term sustainability must be based on securing what the environment needs to survive, i. e. guaranteeing biodiversity. This must be prioritized over the pillars of the economy and society and used as a foundation to build on.



KATHRIN MENGES: In my opinion, the actual strength of the concept is its integrated consideration of social, economic and ecological aspects. This holistic perspective is not only important for economically motivated decisions, but also when we want to achieve ecological or social goals.

Sustainability was always a broad concept, which naturally incorporates a wide range of topics in its three dimensions ecology, economy and society. The fact that these matters are increasingly not only discussed by experts, but also by the population, the private sector and politics and administration at a broader level is an important first step.

So, are we taking the right path?

KATHRIN MENGES: Of course, no one can be satisfied given that the awareness of sustainable development is not reflected sufficiently in the actions of the individual stakeholders. When faced with conflicting objectives, we all tend to choose the simple, partially optimized solution, and too rarely look for ways to reconcile short-term interests and the longer-term perspective of a sustainable development.

Critics of the sustainable vision state that it only improves what goes wrong, i.e. perfecting our excessive lifestyle. Therefore, wouldn't it make sense to simply consume less and produce less?



HUBERT WEIGER: We only have one earth – and we not only want to keep it in a good, liveable condition for our children and grandchildren, we also have to reduce the massive imbalance within and between the countries. In particular, that involves striking a balance and clearing the resulting backlog in the southern countries. The challenge is enormous – the earth's sustainable resources were already used up by the end of August this year. As a result, we in the industrial countries must reduce our energy, material and land use drastically. However, this will not succeed by way of greater efficiency and technical solutions alone; accordingly, sufficiency is essential to effective sustainable development. BUND advocates a policy of sufficiency: We call on politicians to create the appropriate framework conditions and incentives for a low-resource-intensive lifestyle and an emancipation from forced growth.

Ms Menges, would this position find a consensus in the private sector?

KATHRIN MENGES: The question is how we define sufficiency. Reducing our consumption of raw materials and energy is one of the key global challenges. By contrast, calls for less consumption and less production, i.e. renunciation, are less helpful. We need a positive, worthwhile perspective with majority appeal. The goods and services produced are not only the economic foundation for our society, they are also a key component of our quality of life.

However, we have to become far more efficient and significantly reduce the resource consumption and emissions associated with our quality of life and our value creation. Our vision must be to enable people to live a good life in harmony with the earth's limited resources, as formulated

By contrast, calls for less consumption and less production, i.e. renunciation, are less helpful. We need a positive, worthwhile perspective with majority appeal.

in Vision 2050 of the World Business Council for Sustainable Development. For this we need innovations and new business models. Our lifestyles and the associated consumption patterns will also change over time.


Until now, sufficiency has only played a subordinate role.

How can we promote a sufficient lifestyle?

MARLEHN THIEME: We need more clear orientation in the aspects where we need to change course. And this change of course will need to be all the more radical, the longer we continue with our non-sustainable lifestyle. The more effectively we attune our education and culture, the less rigidly we can act. As a result, I advocate not focusing the discourse on sufficiency alone, but also including the freedom of self-limitation. I believe this can succeed if we organize mutual commitment with growing knowledge and responsibility, and with a competitive order, laws and potential sanctions. Then the needs of future generations have a chance of being satisfied.

Where do we currently stand in Germany?

How sustainable is Germany in 2017?



Much has been achieved in recent years – but we still have a major backlog.

HUBERT WEIGER: Much has been achieved in recent years – but we still have a major backlog. Emissions from industry and road traffic are still too high. The same goes for land usage. Also, more and more animal and plant species are disappearing from our cultural landscape. The controversial trade agreements TTIP and CETA and the Federal Transport Infrastructure Plan do not represent a sustainable government policy.

Do you have specific ideas for how to incorporate sustainability to a greater extent in politics?

HUBERT WEIGER: A key to change could be expanding the responsibilities of the environmental department. This is because the most important political and economic course is set in other departments: in the Ministries for Economy, Transport or Agriculture. The Ministry of the Environment should be given the right to veto resolutions by other departments if they violate the principle of sustainable development – to ensure that maintaining our ecological basis for life actually becomes a "conditio sine qua non."

How could and should we incorporate sustainability to a greater extent in society?



KATHRIN MENGES: We must mobilize the population to a greater extent as citizens and consumers to root sustainability on a broad base in the economy – from craft companies to large corporations – to achieve real progress. For this, we need holistic solutions that recognize barriers and help resolve conflicting objectives, and less symbolic politics and bureaucracy.

We have made major advances to a shared understanding of priorities for overall global objectives in recent years – especially in 2015. The long-term milestones are set with the goal of global sustainability and climate protection. Now we must honestly discuss what the government, economy and private sector can and must do to implement this.

Where do you see a need for action, in spite of all steps taken?

KATHRIN MENGES: Unfortunately, we are making very slow progress in many key social issues. This includes improving the quality of our education systems, the closely associated matters of equal opportunities and innovation and as well as modernizing our infrastructure, especially when it comes to mobility and energy supply. Seemingly simple solutions and apparently unsolvable obstacles too often “enjoy” the brief attention of politics, society and the media – which then moves on before we have found a viable, long-term solution. Too often, we discuss measures without creating a common understanding of objectives and priorities.

The long-term milestones are set with the goal of global sustainability and climate protection. Now we must honestly discuss what the government, economy and private sector can and must do to implement this.

In this area, I would wish for a more open and honest dialogue on what is really expedient and necessary, that builds on a comprehensive and balanced understanding of the status quo.

How do you think we can speed up sustainable development in Germany?



MARLEHN THIEME: Given the debate on climate change and the planetary limits, we need a greater response for sustainable development much faster. My concern is the new form of simplified political discourse we have had to endure in recent times, not just in Germany. With its social market economy, Germany has organized social equilibrium better than other societies. We should use these traditions, the participation concept, acceptance of responsibility and expand processes to the matters of ecological, global and intergenerational interests. Educational and research policy must soon focus more on sustainability and every branch of the government must clearly take on responsibility for sustainable development. The German economy, dominated by medium-sized, owner-driven companies (i.e. focused on passing on to future generations) is well equipped to develop an innovative, sustainability-oriented competitive model.

A photograph of a modern building with a green facade and balconies covered in plants. The building is multi-storied with a mix of dark and light grey panels. The balconies are filled with various green plants, including trees and shrubs. A large, semi-transparent green rectangle is overlaid on the right side of the image, containing the title and subtitle text.

ON THE ROAD TO A GREEN INNOVATION LOCATION

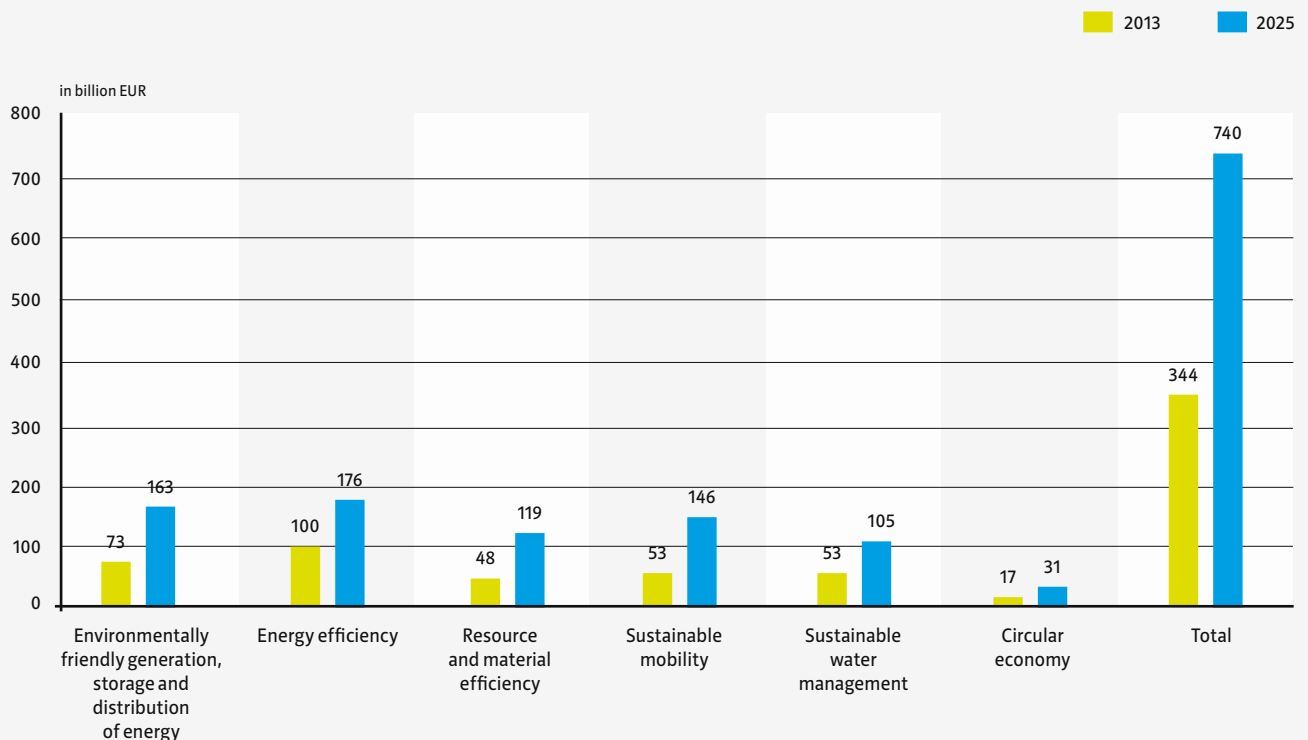
Visions and impulses for
a sustainable future

Germany has all the prerequisites to develop into a leading green economy worldwide. According to the **Green Economy Start-up Monitor 2015**, it is, after the retail industry, the second-largest start-up sector in Germany.

As part of the **Research for Sustainable Development (FONA)** framework programme, the German Federal Ministry of Education and Research initiated the Green Economy agenda process. The process of change to a green economy is to be supported by practically-oriented research. It is to become a key element for innovations “Made in Germany” and for high-tech solutions. At the same time, German Federal Minister of Education, Prof. Dr. Johanna Wanka founded the National Platform of

Education for Sustainable Development (BNE) in September 2015. “We want to be the generation that makes the change to a sustainable society,” said Wanka. Decision makers from the fields of politics, science, business and society meet twice a year to develop an action plan with goals and measures, take new paths and spread good ideas. Successful practical examples are promoted specifically and model **BNE initiatives** are awarded. Sustainability is also to be rooted structurally in com-

Volume of emerging green markets in Germany



panies, research and teaching at higher education institutions. Among other things, the HOCH N project includes a practical test of the **Sustainability Code for Higher Education Institutions**. The Code for Higher Education Institutions is intended to serve as a first step in sustainability reporting.

It is not least due to the cooperation of research and young entrepreneurs that a dynamic start-up scene has developed in major German cities. According to the 2015 Start-up Monitor, of the roughly 190,000 green start-ups founded in Germany between 2006 and 2014 (inclusive), 36 percent focus on renewable energy sources and 32 focus on energy efficiency.

As a result, these two green economy fields combined account for roughly two thirds of all green start-ups. The green tech market is growing in particular: According to the Federal Ministry of the Environment, the green tech sector market volume in 2013 was 344 billion euros and is forecast to grow to 740 billion euros by 2025.



Source (see diagram on page 49):

www.bmub.bund.de/fileadmin/Daten_BMU/Pool/Broschueren/greentech_atlas_4_0_bf.pdf

The German Sustainability Award

The German Sustainability Award Foundation has been recognizing outstanding achievements in the field of sustainability in business, municipalities, research and construction as well as honouring individual achievements promoting sustainable development worldwide since 2008. The award is presented at a gala event in cooperation with the German Council for Sustainable Development, the German Federal Government, local government associations, business associations, civil society organizations and research institutions.

Based on applications and in-depth research, three different specialist jury panels chaired by the Secretary-General of the German Council for Sustainable Development Dr. Bachmann select award winners who have demonstrated that “Sustainability made in Germany” is successful and opens up new opportunities. The Next Economy Award (NEA) recognizes start-ups active in the field of sustainability, giving a boost to ‘green start-ups’ and encouraging all players to shape the transition to the ‘next,’ more sustainable economy.

Winners of the German Sustainability Award in recent years include, among others, Ban Ki-moon and António Guterres, the then UN High Commissioner for Refugees, Patricia Espinosa as Mexican Minister of Foreign Affairs, Achim Steiner as Executive

Director of UNEP and his predecessor and former German Minister of the Environment Klaus Töpfer, Volker Hauß and Gro Harlem Brundtland for their achievements in promoting the concept of sustainability, Prince Charles and the Mayor of Palermo Leoluca Orlando, as well as committed celebrities in the music and TV industry. The German Sustainability Award is the most prestigious prize of its kind in Europe.

[The German Sustainability Award](#)



NEA Award Winner 2016

Green chemistry

To produce just one kilogramme of a chemical, e.g. the active ingredient in a drug, often takes several hundred kilogrammes of other chemicals. To date, the raw materials used for these chemicals are comprised almost exclusively of fossil raw materials. Startup DexLeChem founded by Sonja Jost aims to support an environmentally friendly development of the chemical industry to achieve the transition to a sustainable circular economy. DexLeChem delivers services and modules that already make production processes greener and more competitive today. It replaces the chemicals required to produce active ingredients, most of which are highly toxic, with water and other greener alternatives. That offers manufacturers cost advantages in production and more ecological synthesis routes with maximum product qualities.

DexLeChem impressed the jury of representatives from the industry, venture capital and NGOs with its high-tech green concepts in optimizing and developing chemical and biotechnological processes, leading to significant cost advantages in production. The jury considered DexLeChem a pioneer in the field and a trailblazer in the revolution of the chemical industry.

www.dexlechem.com/home_en.html



NEA Award Winner 2016

Lifeline

Each year, over 70,000 women in Germany are diagnosed with breast cancer. Early detection offers better chances of recovery – however, doctors only have a few minutes for these crucial check-ups. At the same time, there are several thousand unemployed blind or visually impaired women, whose superior sense of touch qualifies them to perform the test.

The company “discovering hands” makes use of this special ability to improve early detection of breast cancer. As part of a special training course at certified facilities, blind and visually impaired women are qualified as Medical Palpation Testers (MTU). Before the check-up, the MTU attaches haptic guide strips on the patients’ bodies, providing them a tactile system of coordinates. The findings of the check-up examinations, which take at least 30 minutes, are documented digitally as a basis for further treatment.

Initial results of the study show that MTUs detect up to 28 percent more and 50 percent smaller tissue changes compared with doctors. The “discovering hands” concept offers patients optimized check-ups and also reduces prejudices against persons with disabilities, as they are not employed in spite of their disability, they are employed due to their ability.

www.discovering-hands.de/en



NEA Award Winner 2016

When the road generates electricity

SOLMOVE counters the rising demand for energy with an innovative technology that does not take up any additional space. The company has found a way to make it possible to use photovoltaic modules on cycle paths, roads, squares or railway lines. In Germany, this makes roughly 1,400 square kilometres of horizontal spaces available to install these horizontal photovoltaic modules. This could generate 140 TWh of electricity each year, and potentially replace all nuclear power stations.

The photovoltaic modules are designed as a solar carpet that is made of recycled materials and is laid like rolled turf. Due to its modular structure, the solar carpet is easy to maintain, 95 percent recyclable, absorbs noise and reduces nitrogen oxides. The non-slip and shatterproof surface means that even lorries can drive over the glass without problems. In future, additional features like LED lighting, sensors for autonomous driving, heating elements for de-icing or inductive charging coils for electromobility can be integrated. While asphalt roads incur costs for maintenance, the horizontal photovoltaic solution can even add financial value and refinance road building.

www.solmove.com



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