# Marisa Becker: Straight Talk: Sustainability

## Carlsen Klartext: Nachhaltigkeit

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# Contents

# INTRODUCTION:
# WHAT DOES SUSTAINABILITY ACTUALLY MEAN?

Everyone is talking about sustainability: schools are dedicating one project week after another to it, politicians are campaigning for our country as a whole to become more sustainable and companies are busy writing their sustainability reports. Each of us seems to have a rough idea of what is behind this term. But what exactly "sustainability" actually stands for and that it involves much more than just environmental protection? Very few of us probably know. That's why this book will start right there - with the meaning of the term. After all, we should know what we are talking about when we start discussing sustainability.

When I was first asked to give a presentation on the topic of "Sustainable living" a few years ago, I was sitting in front of a blank piece of paper, as I do today, and thought a lot about the best way to start my talk. Back then, I had already been writing

about sustainable approaches in the economy for some time and had changed my everyday life quite a bit in order to live more sustainably myself. But I had never really considered the exact meaning of the term. At the time, I understood sustainability as a kind of principle according to which one should live so that the environment would be damaged as little as possible, but rather preserved. However, as I didn't want to start my presentation relying solely on my gut feeling, I looked up what sustainability actually means in the good old dictionary. And lo and behold, my gut feeling wasn't that far off from what was presented to me there as a definition. According to the Duden dictionary, sustainability means either a "long-lasting effect", "a forestry principle according to which no more wood may be felled than can grow back" and also a "principle according to which no more may be consumed than can be regrown, regenerated and provided a g a i n in the future".[1] What these three approaches to defining sustainability have in common i s their long-term nature. Sustainability is therefore about acting with as much foresight as possible while maintaining a certain state. In principle, acting sustainably means practising good resource management - in the present and for the future.

***What are resources?***

Resources are all materials that occur in nature and are used by humans, for example for food or to produce energy.[2]

# Dimensions of sustainability

Sustainability is a holistic concept. This means that you can't just look at the ecological component in isolation, but have to see the big picture - even if sustainability is probably primarily associated with environmental protection in our everyday interactions.

In order for a society to function in the long term, however, social and economic resources must be preserved alongside ecological resources, so that the environment, society and the economy can be brought into balance. A distinction is made between three dimensions of sustainability: ecological, economic and social.[3, 4]

## Ecological dimension of sustainability

Ecological sustainability is what most of us probably have in mind when we think about what sustainability means: a forward-looking approach to our environment and our ecological capital.

### Economic dimension of sustainability

Economic sustainability calls for an economic system that can survive in the long term within ecological limits. Future generations must be left with a system that can draw on sufficient resources and at the same time ensure prosperity.

### Social dimension of sustainability

Social sustainability refers to the human assets of a society, i.e. the people who live and work in it. It calls for the best possible life for as many people as possible. How can we live in peace? And how can we get people into secure jobs? What freedoms do they enjoy? And how do we manage to support people? These are all questions that are addressed by the social dimension of sustainability.

***The 17 Sustainable Development Goals***

The three dimensions of sustainability become particularly clear when you look at the United Nations' 17 Sustainable Development Goals.[5, 6] In 2015, 193 countries committed to the 2030 Agenda to ensure a life of dignity for all by 2030 by helping to achieve these 17 goals[7] - because

that is exactly what sustainable development aims to achieve. The goals include, for example, ending poverty, promoting health and well-being for all, access to affordable and clean energy and reducing inequalities within and between countries.

# Sustainability models

If you try to organise the three dimensions of sustainability in a model, you realise that there are different ways of weighting the individual dimensions. There are very different opinions as to which model is the right one.

### The three-pillar model

In the three-pillar model[8], ecology, economy and social issues are equally important pillars that support sustainability. This model is particularly popular with business representatives, as the equal weighting of the pillars means that economic interests are on an equal footing with the protection of natural resources.[9] From a business perspective, this can justify making compromises in terms of environmental protection if this serves the economic success of a project. One criticism of this model is that, according to it, just two pillars would be enough to support the roof of sustainability.[10] This contradicts the idea that sustainability has three dimensions that cannot be considered separately.



### The sustainability triangle

The sustainability triangle is characterised by the fact that it is equilateral and therefore also emphasises the equal weighting of the individual dimensions. In contrast to the three-pillar model, however, it would not be possible to leave out one dimension, because then the triangle would no longer be a triangle. The model focuses on the interdependence of the individual dimensions.[11]



### The integrative model

The integrative sustainability model attempts to make the correlations between the individual dimensions of sustainability even more visible. For this reason, it consists of three overlapping circles.

This expresses the fact that the dimensions influence each other. According to the model, sustainable development can take place in the centre, where all three circles or dimensions come together.[12, 13]


### The priority model

Unlike the models presented so far, the priority model does not consider the three dimensions of sustainability to be of equal value. Here, ecological sustainability takes precedence over social sustainability, which in turn takes precedence over economic sustainability. According to this model, it would therefore not be sustainable to destroy parts of the environment in favour of economic or social sustainability, for example.

An example: If an intact piece of forest were to be cleared to build a playground there, this would be okay according to the models described above because it would strengthen social sustainability at the expense of ecological sustainability.

From the perspective of the priority model, however, this is the wrong approach. It is based on the conviction that no social or economic stability is possible without an intact environment. The sustainable use of ecological resources therefore forms the framework within which social and economic goals can be pursued.[14]

*Which sustainability model appeals to you the most and why?*

No matter which model best suits your own beliefs: It should have become clear that sustainability involves much more than just an ecological dimension. For holistic sustainable development, the social and economic dimensions must also be considered. And this applies regardless of whether we are interested in the sustainable development of an individual actor, such as a company, or whether we think at country level or even globally.

**Definition of sustainability**

(noun, feminine): a principle of action according to which decisions are made in the present in such a way that we satisfy our needs without restricting the opportunities of future generations. At its core, it is about the management of resources - financial, environmental and social.[15]

# Strategies for achieving sustainability

Sustainability as the smart and forward-looking use of our resources - what sounds obvious and feasible at first is actually a mammoth task. The global population is growing, and has been for years: in 1950, there were around 2.5 billion people in the world. According to the UN, we have already broken the 8 billion mark in November 2022[16] , more than tripling the number of people on Earth in just 70 years. The United Nations expects the population to grow to 10.4 billion people by 2100.[17] And each of these people will consume resources in the course of their lives: for clothing, housing, electricity, food, mobility and leisure. A growing world population is therefore accompanied by an increasing demand for resources, which must be met sustainably.

Unfortunately, this has not worked out so well so far. This becomes particularly clear on Earth Overshoot Day, which is explained in more detail in Part 1 of the book. In short, Earth Overshoot Day indicates the day of the year on which humans have used up all the Earth's resources that should actually last a whole year.

In 1971, this day was still in December, so people were using the Earth's resources quite sustainably back then.[18] In 2022, Earth Overshoot Day fell on July 28. From this point onwards, we are using more resources than can be replenished by the end of the year, which will overload the system in the long term. Even today, we would need 1.75 earths[19] to meet our demand for resources.[20] But we don't have them, which is why we as a global community are faced with the challenge of developing new strategies to sustainably fulfil the needs of as many people as possible with the resources available to us. At the moment, we are not only using more resources than we actually have, but we are also distributing them quite unfairly: while some people revel in prosperity and throw away surplus food, others live in abject poverty and suffer from hunger. Yet the food produced worldwide would be enough to feed everyone.[21] So something has to change here too, because sustainability also has a social dimension.

So what could such a strategy look like? Many people have already thought about this. As a result, three core approaches have emerged that are repeatedly referred to when it comes to promoting sustainable development: Efficiency, sufficiency and consistency.

### Efficiency: Producing better

Efficiency is probably the best known of the three strategies. The aim here is to get the most out of the available resources. You may be familiar with this from your everyday life: for example, if you only have a short amount of time to prepare for an exam between school and training and are also supposed to help with the household chores, then it may help you to use your time more efficiently by listening to a podcast on the topic of the upcoming exam while you walk the dog.

A sustainable example of greater efficiency is the LED bulb. It is very efficient compared to incandescent bulbs, which means that it can light up for longer with the same amount of electricity. Or to put it another way: for one hour of burning time, the LED bulb consumes less electricity than the incandescent bulb.

The efficiency strategy is particularly popular with companies because the reduced use of energy and resources generally also means saving costs. At best, this allows companies to offer their products at a lower price. However, this can in turn have a negative impact on overall resource savings - if the lower price means that more is bought and consumed overall. This is known as the rebound effect.[22]

One example: technical innovations have ensured that we can produce and buy clothing cheaper than ever before. This is particularly efficient from the company's point of view. However, it is also a fact that low prices and the fast fashion segment have made clothing into something a lot more disposable.

We all have far too many clothes in our wardrobes: in germany, according to a Greenpeace study from 2015, there are around 2 billion unworn items of clothing.[23] The researchers found this out by conducting a survey among 1,011 people between the ages of 18 and 69. The resources that went into their production have thus virtually evaporated. The original resource savings from the more efficient products are therefore likely to have been cancelled out.

### Sufficiency: Producing less

Sufficiency asks how we can consume fewer resources overall. At its core, sufficiency is about questioning our own needs and, if in doubt, making sacrifices.

For example, it is quite resource-intensive to produce and drive a car. In addition, it is usually only used for a short time each day and otherwise just takes up space. It would therefore be sufficient to question whether every household really needs their

own vehicle or whether a sharing model would make more sense, especially in cities. This would lead to a sinking production of cars overall and thus reduce the consumption of resources. There are now many providers of "sharing instead of owning" concepts, especially in large cities. Repair cafés are also a sufficient approach to greater sustainability, as repairing things saves the resources needed to buy new ones.

This strategy will play a special role in the future, especially for people like us who live in industrialised nations. As already mentioned in connection with Earth Overshoot Day, our lifestyle is very resource-intensive compared to someone who lives in Nepal, for example.[24]

### Consistency: Producing differently

Consistency is about making the production and consumption of products more sustainable. This means, for example, switching to renewable energies for the operation of factories or producing packaging in such a way that it is biodegradable or recyclable. An important approach to making our economy as a whole more consistent is the circular economy.

At the moment, our economy can be described as linear: We buy something, use it and throw it away. The aim of the circular economy is to keep raw materials and resources in circulation for as long as possible before they have to be disposed of or landfilled. Instead of disposing of an item of polyester clothing when you no longer like it, in the circular economy you would try to pass the item on ("reuse"), repair it if necessary ("repair") or at least save the material by reprocessing it ("recycle").[25]

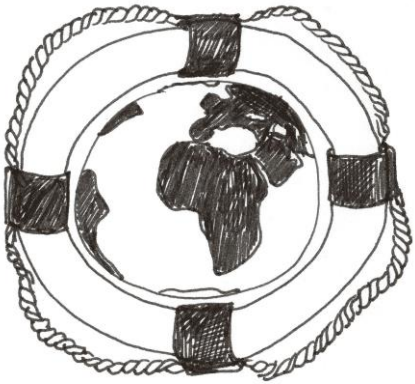
Up to now, industrialised nations have primarily focused on efficiency and consistency as a strategy for greater sustainability. However, in order to achieve the goals of sustainable development, it is necessary to combine all three strategies.[26]

# PART 1:
# WHY WE SHOULD THINK ABOUT SUSTAINABILITY

Now you may be wondering why sustainability has become such a much-discussed and important topic today and why we should be concerned about it. This is exactly what I want to explain to you in this part of the book. To do this, remember the definition of sustainability: according to this, sustainability is a principle of behaviour according to which decisions are made in the present in such a way that we satisfy our needs without restricting the opportunities of future generations.

We as humanity are now facing two central problems: The first problem is that even today, the basic needs of all people cannot be met. Many people are starving, have no access to clean drinking water, are on the run or live a life of insecurity for other reasons. The second problem is that this situation will worsen in the future, primarily due to man-made climate change. The opportunities for future generations are therefore

endangered. As humanity, we are therefore faced with the mammoth task of promoting sustainable development while fighting against the greatest threat to our own livelihood, climate change. The means to solve both problems is sustainability. That is why it is so important to address it.



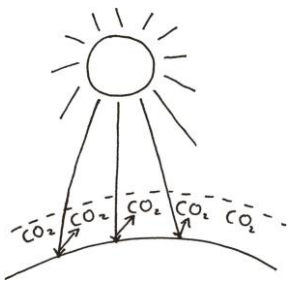
# The climate is changing, and that has consequences

Reputable scientists now agree that climate change exists and that it is man-made. This means that we humans alone are to thank for the fact that the earth is 1.2 degrees Celsius warmer today than it was before the start of industrialisation.[1] The period before industrialisation is used as a comparative value because mankind was fairly resource-conserving back then and did not yet emit masses of $CO_2$ and other greenhouse gases. From around 1800 onwards, we humans then increased the burning of coal, gas and oil, deforestation and livestock farming enormously due to the new technical possibilities, thereby emitting more and more greenhouse gases into the atmosphere.[2] And because greenhouse gases cause the earth to warm up, climate change was set in motion.

***How do greenhouse gases cause the earth to warm up?***

The natural greenhouse effect is the reason why we humans are able to survive on earth at all,

otherwise it would be far too cold on our planet. The greenhouse effect describes the effect of greenhouse gases in the atmosphere. These include carbon dioxide, i.e. $CO_2$ , or methane, for example. Our earth is warmed by the sun by converting solar radiation into heat rays on the earth's surface. Part of this radiation is absorbed by the earth as heat, while another part is emitted into space. However, the natural greenhouse gases in the atmosphere act like a mirror and ensure that some of this radiation is sent back to earth. In this way, the earth is warmed to a comfortable temperature for us by the natural greenhouse effect. Through industrialisation, humans have increasingly interfered with this natural process and emitted additional greenhouse gases into the atmosphere. This keeps even more radiation in the atmosphere for longer, which ultimately causes the earth to heat up.[3]



**DID YOU KNOW?**

In addition to $CO_2$ (carbon dioxide), there are a whole range of other greenhouse gases, such as methane and nitrous oxide.[4] All of these gases have different effects on the atmosphere. For example, methane is significantly "worse" than carbon dioxide in the short term - one kilo of methane therefore fuels climate change significantly more than one kilo of $CO_2$ , because it acts even more like a greenhouse than carbon dioxide. Over a period of 20 years, methane has around 83 times the effect of $CO_2$ .[5] To make it easier to compare the effects of the individual gases on the climate, they are converted into $CO_2$ equivalents (short: $CO_2e$).[6]

The concentration of $CO_2$ in the atmosphere today is higher than it has ever been in the last three million years.[7] And that has consequences. As I wrote at the beginning of this chapter, our planet has already warmed by around 1.2 degrees Celsius.[8] I say around because scientists have come to different conclusions when calculating the warming to date. These differences range from 1 to 1.3 degrees Celsius. This is, for example, due to the fact that the start of industrialisation is dated to different years. But no matter how you look at it: This means that we are already pretty close to the 1.5 degrees Celsius that we as a global community actually want to limit global warming to.

With the Paris Climate Agreement in 2015, 195 countries around the world agreed that the goal must be to limit global warming to well below 2 degrees Celsius, or preferably 1.5 degrees Celsius, compared to the initial temperature at the beginning of industrialisation.[9, 10]

Unfortunately, we as humanity are in the process of falling massively short of this goal. In its sixth assessment report, the Intergovernmental Panel on Climate Change (IPCC) estimates that, based on current reduction plans, global warming will be around 2.1 to 3.4 degrees Celsius in 2100.[11, 12] Although the IPCC also points out that it would theoretically still be possible to meet the 1.5 degree target, this would require an immediate turnaround and far-reaching reductions in greenhouse gas emissions[13] emissions, which do not appear to be in sight at the moment.

**WHAT IS THE IPCC**

The Intergovernmental Panel on Climate Change (IPCC) is an institution of the United Nations. It was founded in 1988 to better understand climate change and to develop strategies to counteract it and its consequences.[14] On behalf of the IPCC, experts around the world regularly work on processing the latest findings on climate change in such a way that they can help politicians to make scientifically sound decisions on climate policy.[15]