

ANDREA BESTE

SUSTAINABILITY LABEL - CONSUMER INFORMATION OR FAKE LABELLING?

WHY POLITICIANS MUST NOT SHIFT THEIR RESPONSIBILITY FOR
SUSTAINABLE FOOD ONTO THE CONSUMER



ON BEHALF OF MARTIN HÄUSLING

INTRODUCTION

With consumers increasingly aware of and concerned about their impact on the environment, climate, and sustainability, the market for 'green' products and services has become extremely attractive. Claims by retailers and manufacturers that products or services have a positive or zero impact on the environment, or are less harmful than their competitors, have become commonplace, as have concerns about the clarity and accuracy of such claims.

In the growing market for "green" products and services, the clarity and accuracy of the information provided by manufacturers and retailers regarding the environmentally friendly properties of products and services is becoming increasingly important.

The EU-level guidelines on the application of the Unfair Commercial Practices Directive 2005/29/EC (UCP Directive)¹ do not contain specific criteria or a methodology for proving environmental claims, but the Directive does provide a definition: Environmental claims can be defined as "any claim that suggests or otherwise creates the impression that a good or service has a positive or no impact on the environment or is less harmful to the environment than competing goods or services because of its composition, the way it is manufactured/produced, the way it is disposed of and/or the reduction in energy consumption or pollution expected from its use".

Claims can be made in the form of visual information (image or colour), a logo/label, or text. Visual information is understood as implicit information, as it suggests environmental friendliness but does not make a direct statement. A logo/label or text, on the other hand, makes an explicit statement.

87% of EU citizens believe that there should be stricter rules for calculating environmental impact and related environmental claims².

However, a 2020 study commissioned by the EU Commission found that 23% of product/service websites and adverts assessed contained at least one potentially misleading claim instead of providing accurate information³.

In fact, a more detailed analysis of 150 of the environmental claims showed that 53% were misleading. The study confirmed the findings of previous work on this topic, which found that few environmental claims were found to be 100% compliant with the Unfair Commercial Practices Directive⁴.

One further conclusion of the study is that independent certification systems significantly improve the clarity of information. However, the increasing proliferation of schemes, logos, and labels can also confuse consumers. Some manufacturers have even developed their own logos or certificates, which is particularly problematic, especially if the manufacturers do not provide sufficient evidence. For credible certification, common standards need to be adhered to, and consumers need to know what to expect from certain logos, labels or certificates, say the authors.

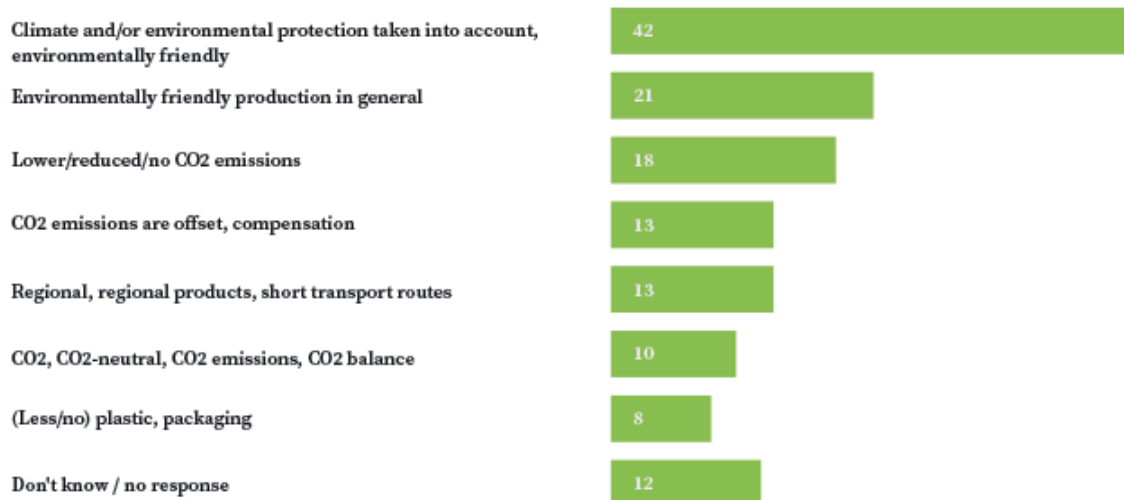
Some well-known labels and certification approaches that are primarily used in the agricultural and food context are presented below. There is also a chapter for the forestry sector. The award criteria, verifiability, and credibility are critically analysed.

CLIMATE LABELLING IN THE FOOD SECTOR

LABELS "CLIMATE-FRIENDLY" & "CLIMATE-NEUTRAL" - NOT REGULATED BY LAW

When shopping, it is easy to get the impression that hot summers, melting glaciers or rising sea levels can all be stopped if consumers buy the right products. The above-mentioned study commissioned by the EU Commission found that 10% of food packaging is advertised with a climate protection promise. However, hardly any consumers understand what is meant by climate-neutral and hardly any manufacturers publish the calculations behind it. The labels "climate-neutral" or "climate-friendly" are not yet legally protected (see chapter "EmpCo & Green Claims"). In current market behavior, "climate-neutral" generally means that a carbon footprint has been created for a product and any emissions generated have been offset by payments to (usually international) climate protection projects. However, there is no promise that the products have particularly low CO₂ emissions or are even emission-free, or that the manufacturers have implemented measures to reduce CO₂ along the value chain ⁵. According to a survey, 35 per cent of consumers do not know what the label means. This contrasts with 45 per cent who believe they know what the term "climate-neutral product" means. However, when asked what this means, the vast majority of descriptions were generalised or incorrect:

In your opinion, what does the term 'climate-neutral product' mean?



Source: 6

"The statement 'climate-neutral' alone is highly dubious," says Professor Achim Spiller, Chairman of the Scientific Advisory Board for Agricultural Policy, Nutrition and Consumer Health Protection (WBAE) in Germany.

Deutsche Umwelthilfe (DUH), a German environmental NGO, is taking legal action against some climate labels. *"I think this is consumer deception,"* says Jürgen Resch, DUH Managing Director, who has sued the drug-store chains *dm* and *Rossmann*. He is bothered by the link between consumption and projects. This creates the impression that *"the more you consume, the better it is for the climate"*. In his opinion, this also leads to a distortion of competition, because manufacturers who advertise with climate messages are in a better position than those who do a lot to reduce emissions but do not include all of this on the packaging. *"Competition is thus shifting away from environmentally friendly design and production towards eco-bluff,"* criticises Resch⁷.

CO₂ CERTIFICATES - REGULATED BY LAW, BUT HOW ...

As part of the UN Climate Change Conference in Paris in 2015, a global programme to build up humus was launched, the 4 per mille initiative. It provides for an annual increase in global soil carbon stocks by 4-per-mille. It is claimed that this could almost offset anthropogenic CO₂ emissions. "Carbon farming" is therefore the new buzzword that is currently being hotly debated globally and throughout the EU. In spring 2022, the European Commission published its carbon farming initiative previously announced as part of the Farm-to-Fork Strategy⁸. As a contribution to combating climate change, CO₂ is to be stored in the soil in a naturally way, e.g. by rewetting peatlands and issuing CO₂ certificates in agriculture, but also in a technical way. Although the Commission itself identifies a number of problems with the solutions it proposes, it ultimately comes to a favourable assessment of carbon farming. CO₂ certificates for agriculture are intended to help with climate protection. However, what sounds so wonderfully simple in theory has many pitfalls and unfortunately often leads to misjudgements and counterproductive political "solutions" in the debate⁹.

Shortcomings that exist in the implementation:

The storage of carbon

- is only possible very slowly,
- is decreasing over time,
- can cause carbon losses in other areas (carbon leakage),
- is reversible,
- is difficult to measure,
- penalises farms that have been building up humus for years, such as organic farms, as the lower the initial value, the faster humus builds up.

An EU regulation adopted in November 2024 is now intended to create a framework for Carbon Capture and Storage (CCS) and for the certification of carbon farming practices (i.e. carbon-binding land use) and CO₂ storage in products. Formerly known as the Carbon Removal Certification Framework (CRCF), the full title of the regulation is now 'Union certification framework for permanent carbon removals, carbon farming and carbon storage in products'^{9a}. Practices in carbon-storing land management ('carbon farming') that are designed to improve the sequestration and storage of CO₂ in forests and soils or reduce emissions from soils can be certified. These practices can therefore involve actual carbon removals or emission reductions.

In addition to the problems already described, the planned minimum storage period is laughable from the point of view of climate effectiveness: carbon storage here is only guaranteed for a period of at least five years.

A lot of money is already being made from climate promises of CO₂ sequestration: According to the organisation Ecosystem Marketplace, the sale of carbon credits generated more than one billion US dollars in 2021. The larger companies in this country include *Climatepartner*, *Myclimate* and *Carbon Trust*¹⁰. *Microsoft* had already

purchased carbon credits for more than four million dollars (3.6 million euros) in 2021 from U.S. farmers participating in carbon farming pilot projects to offset its own emissions¹¹. Farmers are being told by fund and investment brokers how they can get rich from carbon farming, but they are the ones making the least money¹².

"In order to obtain the cheapest possible credits, companies are advocating systems for measuring and verifying carbon removals that are based on unreliable and immature technologies such as modelling and remote sensing. Or they suggest doing away with measurements altogether. In both cases, such soil carbon credits are based on assumptions rather than verified carbon sequestration," writes the Institute for Agriculture and Trade Policy (IATP)¹³.

The IATP concludes: *"The initiative diverts important public human and financial resources away from the urgent task of reducing emissions. The financial resources spent on setting up these carbon management offsets will benefit the big polluters. They could be far better spent on directly supporting farmers on the path to agroecological conversion."*

In addition, carbon offset projects, such as those for the production of biofuel or reforestation projects, have contributed to land grabbing worldwide, i.e. massive purchases of land by large companies¹⁴. Celia Nyssens from the European Environmental Bureau (EEB) believes that a poorly designed EU carbon management system risks falling into the same trap. *"If we create a system where land ownership has even more value because you can also sell carbon credits, we will further exacerbate these problems,"* she says¹⁵.

ENVIRONMENTAL LABEL

“ENVIRONMENTALLY FRIENDLY” - NOT REGULATED BY LAW

The term "environmentally friendly" is not protected. The term only makes sense with a a label, which includes defined measurement methods or production requirements, otherwise it is fake labelling.

THE SERIOUS PROTOTYPE: "THE BLUE ANGEL"



“The Blue Angel” is the world's first environmental label, designed in Germany. It has been awarded since 1978 for particularly environmentally friendly products and services. Today, the label is awarded by the Federal Ministry for the Environment, although this did not exist in 1978. The Blue Angel is a member of the Global Ecolabelling Network (GEN), an interest group of 26 ecolabelling organisations worldwide, which was founded in 1994¹⁶.

WHAT DOES THE BLUE ANGEL CONSIDER WHEN GRANTING THE AWARD?

- **Resource-efficient production water, energy, (recycled) materials)**
- **Sustainable production of raw materials**
- **Avoiding the use of harmful substances in the product**
- **Reduced emissions of harmful substances into the soil, air, water and interior**
- **Reduction of noise and electromagnetic radiation**
- **Efficient use, e.g. energy- or water-saving products**
- **Longevity, reparability and recyclability**
- **Good usability**
- **Compliance with international occupational safety and health standards**
- **Take-back systems and services with shared use, e.g. car sharing**

Source: 17

Products with the Blue Angel must prove that they fulfil the requirements set. The necessary further development and periodic review of the criteria according to the state of the art is also carried out by experts from the Federal Environment Agency (UBA) in Germany, partly in cooperation with other independent scientific institutions and experts and in dialogue with interested parties. The Blue Angel is transparent and publishes all award criteria (in German and English) as well as background information, companies, certified products and updates for each product group at www.blauer-engel.de.

For the assessment, the Ecolabel takes a holistic view of the product life cycle - from production and use through to disposal and recycling. The aim is to identify the key environmentally relevant areas for each product group, where significant environmental impacts can be reduced or even avoided. The Blue Angel goes beyond traditional environmental criteria such as low energy consumption, low emissions to water, air and soil or resource conservation. It also considers health aspects such as low pollutant and noise emissions¹⁸. Over 12,000 products carry the label, but no foodstuffs.

The Blue Angel in no way certifies that a product is completely harmless. It only states that the labelled products are more environmentally friendly than comparable products in this product group - the Blue Angel does not provide any information about which of two labelled products is better, what can be criticised. There is hardly any other label that covers such a wide range of products as the Blue Angel. Accordingly, there are labels that recognise one or a few product groups, but few cover the entire range. In this respect, the environmental label is quite unique.

Even if not every award is always convincing, the Blue Angel has triggered the improvement or complete replacement of a number of environmentally harmful products. Often years before politicians finally issued legal requirements or bans.

LIFE CYCLE ASSESSMENT (LCA)

In the international debate, the Life Cycle Assessment (LCA) has become established as an approach for comparative ecological evaluation. If the LCA is used as the basis for product labelling for consumers or for political decisions, the DIN EN ISO 14020 standard provides recognised rules. When using ecolabels, all relevant aspects of a product's life cycle must be taken into account - from cradle to grave - in order to enable a fair comparison. Product-related environmental labelling must be correct, verifiable and relevant, otherwise it is misleading. The German Scientific Advisory Board on Agricultural Policy, Food and Consumer Health Protection (WBAE) at the Federal Ministry of Food and Agriculture in Germany (BMEL) wrote in its 2020 nutrition report¹⁹:

"There are still knowledge gaps in the assessment of individual impact categories. As a result, these have so far been insufficiently taken into account. The current LCA method is therefore incomplete and does not adequately assess some aspects that are crucial for long-term sustainable food production, such as soil quality and fertility, erosion and reduced ecosystem services due to intensification and biodiversity loss. The criticism here is that while resource consumption is comprehensively taken into account in such LCA studies, changes at the landscape level (e.g. biodiversity) are often not. [...] However, if LCAs are to be useful for policy-makers and consumers, e.g. for product labelling, further methodological development and standardisation are absolutely essential." (p. 296)

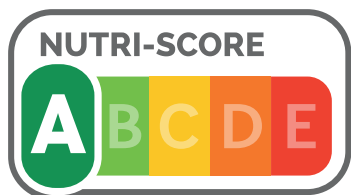
In general, the WBAE writes about the sustainability assessment of agricultural production:

"However, agriculture presents a particular challenge, as defining system boundaries and obtaining data is difficult due to the diversity of farms and the heterogeneity of primary production. There is a wide variety of production methods, management practices and processing steps as well as a large number of smaller farms that can only be mapped and modelled with great effort. Even direct emissions are generally difficult to measure; compare the measurement of emissions from a factory chimney with the measurement of emissions from a hectare of agricultural land. Therefore, these are usually modelled rather than measured, a step that is associated with uncertainties. Emissions from agriculture also vary depending on geographic location, production method, temperature, soil and precipitation patterns, and more. Therefore, generic data is often used, which affects the accuracy of the results. [...] In addition, indirect land use effects need to be included in LCAs. For example, how can the emissions from deforestation of an area be attributed to the product grown on it if all agricultural production contributes to deforestation? Indirect land use effects are therefore often ignored in comparative analyses of different foods for good reasons, but they should be taken into account when comparing agricultural systems." (p. 295)

This statement on agriculture applies in principle to every type of sustainability label, including the Product Environmental Footprint (PEF, see chapter on the PEF)²⁰.

FOODLABEL

NUTRISCORE - REGULATED BY LAW BUT VOLUNTARILY

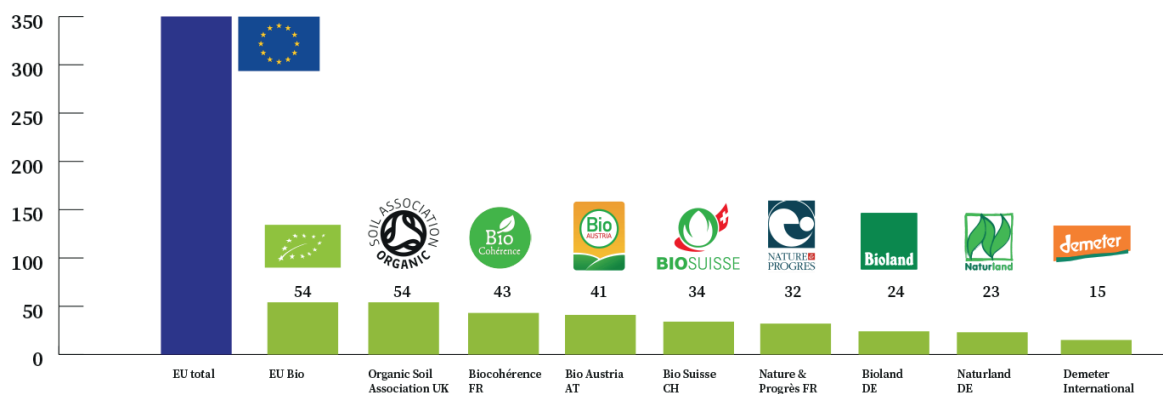


Since November 2020, the Nutri-Score can be added to the nutritional table on foods. The system is designed to facilitate choosing products with a more favourable nutritional quality. The Nutri-Score nutritional traffic light gives a product a grade of "A", "B", "C", "D" or "E". The basic principle of the Nutri-Score is simple: ostensibly "good nutrients" are offset against ostensibly "bad nutrients", resulting in an "overall grade" from A to E.

But it's not quite that simple. A homemade dessert may contain a lot of sugar, but it may be well prepared and easy for our metabolism to metabolise as long as we don't eat it every day or in large quantities. However, if you compare this product with an ultra-processed ready meal from the same food category, it contains additives that our digestive system can hardly cope with. Our gut microbiome can even be damaged by such ingredients²¹. But the Nutri-Score does not take these subtleties into account: Here, a diet cola gets an overall grade of B, while organic fruit juices with no artificial additives and no added sugar only fall into group C or D²². Focussing purely on nutritional values is particularly detrimental to organically produced products. This is because the use of additives such as salt, fat or sugar substitutes or flavourings and colours for organic products is deliberately severely restricted due to legal requirements. For example, five times more additives are permitted in conventional production than in organic processing. A conventional fruit yoghurt that owes its intense "fruit flavour" to the addition of flavouring, which as a sugar-free ingredient is not rated negatively by the Nutri-Score, would therefore score better than an organic fruit yoghurt that derives its flavour from the fruit it contains, which naturally also contains fructose, resulting in a lower score²³.

This means a complete distortion in terms of food quality and health.

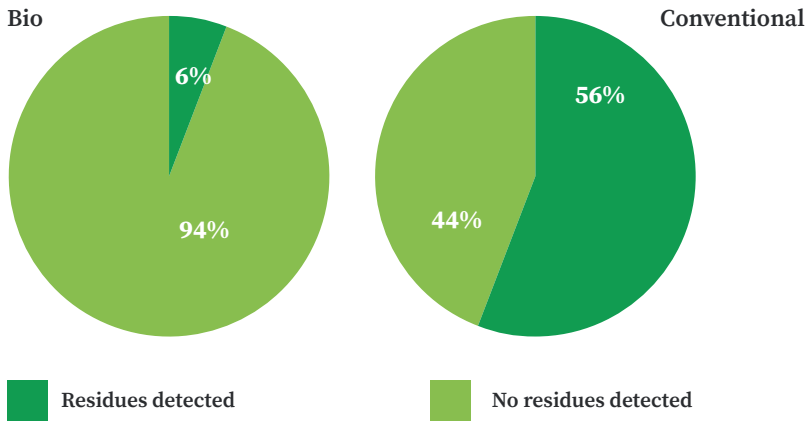
Number of additives allowed in conventional and organic processing in 2021



Source: 24

The sometimes serious differences in exposure to pesticides and other environmental toxins are also not taken into account²⁵.

Pesticide residues on conventionally and organically produced fruit



Source: 24

In addition, the Nutri-Score is calculated using an algorithm that takes into account not only the legally required nutritional information on the packaging but also parameters that can only be verified by disclosing the recipe of the respective product. However, the food control authorities in Germany are not authorised to check recipes and are therefore unable to verify the truthfulness of the Nutri-Score²⁶.

Furthermore, the energy density of a food is less important for the health effect than the degree of processing. A 2019 FAO report lists detailed studies that have linked the frequent consumption of ultra-processed foods with many additives to the following diseases and health risks, among others: Obesity, higher risk of developing high blood pressure, higher likelihood of developing asthma and higher risk of developing cancer²⁷. Therefore, a label that reflects the degree of processing would be much more helpful for the consumer's assessment of the health impact.

THE NOVA SYSTEM – THE ALTERNATIVE

In contrast to the Nutri-Score, the NOVA system of the Food and Agriculture Organisation of the United Nations (FAO) from 2019 takes a more holistic approach to relevant health aspects at²⁸. The NOVA system can be used to categorise processed foods.

STUFE	BETRIFFT	VERARBEITUNG	BEISPIELE	VERZEHR
1	Fresh food	Fresh, dried, heated, pressed, fermented, frozen	Vegetables, mushrooms, herbs/ spices, fruit, nuts, seeds, cereals/ flour, potatoes, meat/ offal, fish, eggs, milk, yoghurt, quark, cheese, tea, coffee offal, fish, eggs, milk, yoghurt, quark, cheese, tea, coffee	basis of the diet, should form the main part of meals
2	Ingredients, lightly processed	Pressed, refined, ground, dried, crushed	Are not consumed 'individually', but are added to the food for flavour: Salt, sugar, honey, vegetable oils, vinegar, cornflour, baking powder	In small quantities for preparation of fresh food
3	Processed foodstuffs	Smoked, cured, baked, preserved, fermented	Bread and rolls, pasta, jams and spreads, pickled vegetables, tinned food of all kinds, preserves of all kinds, beer, wine	In rather small quantities as an addition to fresh dishes
4	Heavily processed foodstuffs	Industrially produced mostly with additives	Products with additives of all kinds: Ready-made products, cereals, bars, dairy products with added fruit, baked goods and confectionery, sausage and fish products with additives	Avoid if possible/ in small quantities consume

Source: 28

If we take a closer look at the quality of food, we realise that simply reducing the assessment to individual nutrients or nutrient combinations does not do justice to the complex interplay of "nutrition". After all, we are not just consuming a bundle of nutrients, but a food or a meal consisting of a certain composition of different foods.

It must be seen as successful lobbying by the food industry that the Nutri-Score label has prevailed at EU level and the NOVA system has remained largely unknown in Europe. In any case, the Nutri-Score is not a useful decision-making aid with regard to important health factors of industrially processed foods, and even improvements to the algorithm from 2024 will not help²⁹.

EMPCO, GREEN CLAIMS, - LEGAL REGULATION IN PROGRESS

EMPCO & GREEN CLAIMS

Producers who like to advertise with claims such as "environmentally friendly", "climate neutral", "environmentally sound", "sustainable", "recyclable", "compostable", "fair trade" or claim that their products "now leave 30% fewer emissions" or "50% less plastic by 2030" will soon have to dress warmly. There are 230 different eco-labels on the EU market. However, a study conducted by the EU Commission in 2020 revealed that up to 50 per cent of all environmental claims for or on products do not currently stand up to critical scrutiny³⁰.

The "Empowering consumers for the green transition" (EmpCo) directive, which was adopted in February 2024, aims to protect consumers from misleading marketing practices in the area of sustainability advertising. In future, companies will therefore be subject to strict requirements regarding the use of environmental advertising claims and the use of self-developed sustainability labels will be curbed.

Of particular importance is the inclusion of new offences in the so-called "**black list**" of business practices prohibited per se. In this respect, the EmpCo Directive supplements the Annex to the UCP Directive ("Unfair Commercial Practices Directive", see above). The business practices described there are considered unfair per se. The following actions have been included in the "black list" of per se unfair business practices and are therefore prohibited in future:

- The application of a **sustainability label** that is not based on a certification system or has not been established by government bodies. It will therefore no longer be possible to use internally developed sustainability seals in future.
- Making **general environmental claims** when the company **cannot demonstrate** the recognised environmental excellence to which the claim relates.
- To make an **environmental claim about the entire product or operation** of the organisation, where the environmental performance relates only to a specific aspect of the product or operation of the organisation.
- The claim that a product has a neutral, reduced or positive impact on the environment in terms of greenhouse gas emissions due to the **offsetting of greenhouse gas emissions**. Examples include statements such as "climate neutral", "CO₂ neutral certified", "reduced CO₂ footprint". In future, these statements will only be permitted if the positive environmental impact is not based on offsetting greenhouse gases but relates to those within the product's value chain.

Environmental claims relating to **future environmental performance** (e.g. "climate neutral by 2030!") are also considered misleading commercial behaviour if the company has not made clear, objective, publicly available and verifiable commitments set out in a detailed and realistic implementation plan that includes measurable and time-bound targets.

The EmpCo Directive is accompanied by the Green Claims Directive³¹. Its aim is to develop generally applicable and binding standards for climate, environmental and other green advertising claims. The Green Claims Directive is currently in the final negotiations at EU level between the Council, Parliament and Commission, known as the trilogue negotiations. The Parliament has drawn up an ambitious position on the Green Claims Directive, which stipulates that in the event of a breach, companies could face confiscation of revenue and a

fine of at least four per cent of their annual turnover.^{31a}

THE "CALCULATION": PEF & PLANET SCORE

ENVIRONMENTAL FOOTPRINT: PEF

Building on the basic principles of life cycle assessment, in 2013 the European Commission presented guidance on modelling the environmental footprint of products (Product Environmental Footprint, PEF), which was updated in 2021³². PEF is a method for life cycle-based modelling and assessment of the environmental impacts of products and services through the material and energy flows that occur, as well as the associated emissions and waste streams. The method follows the "comparability over flexibility" approach, i.e. it aims to standardise existing methods for the LCA-based assessment of products.

The statements of the Scientific Advisory Board on Agricultural Policy, Food and Consumer Health Protection (WBAE) in Germany on the difficulties of such methods in the agricultural sector also apply here (see above, chapter "Life Cycle Assessment").

This view is confirmed by French experts because, according to the French Independent Institute for Sustainable Development and International Relations (IDDRI), the life cycle analysis method on which the PEF is based currently, without corrections, leads to "continuity with the current intensive system", i.e. the PEF in its current version even supports products from intensive production systems because it evaluates them too favourably³³.

While the method works well for industrial goods, such as electrical appliances, this product-centred tool is not designed to take into account the environmental impacts of complex agri-food systems. When applied to more complex agri-food systems, the LCA method, and therefore the PEF, tends to favour more intensive systems that have higher yields but also higher impacts per unit area. For example, landscapes with smaller fields, hedgerows and high crop diversity favour biodiversity and ecosystem services while increasing the resilience of agriculture. However, the PEF method is not suitable for capturing the positive effects of such landscapes.

There are three reasons why the LCA does not adequately assess agroecological systems:

- (1) Lack of operational indicators for three key environmental aspects (land degradation, biodiversity loss and impact of pesticides),
- (2) a narrow perspective on the functions of agricultural systems, and
- (3) inconsistent modelling of indirect effects.

For example, an apple with the lowest environmental impact receives the same final score (an A) as an apple with the highest environmental impact. The PEF therefore does not incentivise more environmentally friendly production³⁴.

Due to these weaknesses, the PEF is not suitable for reflecting the complexity of the agricultural and food system and for adequately assessing the environmental performance of products in the overall context (see also the “Life Cycle Assessment” chapter above). Possible solutions would be to add additional indicators that reflect external effects (on soil and biodiversity and through pesticides) and to consider a more comprehensive system perspective instead of focussing on a product-based approach.

PLANET SCORE – THE ALTERNATIVE



There are only a few initiatives that go beyond LCA and also support the agroecological transition in line with the objectives of the Farm to Fork Strategy, with its well-placed sustainability goals. An example of one of these initiatives is the Planet Score, which was developed in France and is currently being trialled in several Member States. The Planet Score is a methodology based in part on the PEF, but updated and complemented by additional indicators, which has been shown to support such a transition. It is much better able to provide a comprehensive yet transparent assessment of food, as it takes better account of external factors such as biodiversity, the use of pesticides, the impact of livestock density on local carrying capacities and the ecological resilience of agricultural systems³⁵.

The French Institute of Organic Agriculture (ITAB), together with *Sayari*, a consultancy company with expertise in biodiversity and life cycle assessment, and *Very Good Future*, a consultancy company specialising in consumer issues, have developed a methodology and a label that can reflect the real environmental impact of food. During its development, the Planet Score gathered support and expertise from many other stakeholders at French level, including *UFC Que Choisir* (consumer association), *Synabio* (French association of organic processors and traders), WWF France, CIWF France and Greenpeace. The Planet Score is also used outside France, e.g. in Germany, Belgium, Spain, Italy, the Netherlands, Poland, Norway and the United Kingdom. Around 170 companies are currently testing the Planet Score and more than 15,000 products have been assessed using it³⁶.

It would be a good alternative to LCA and PEF.

ORGANIC, ECO, ORGANIC - REGULATED BY LAW



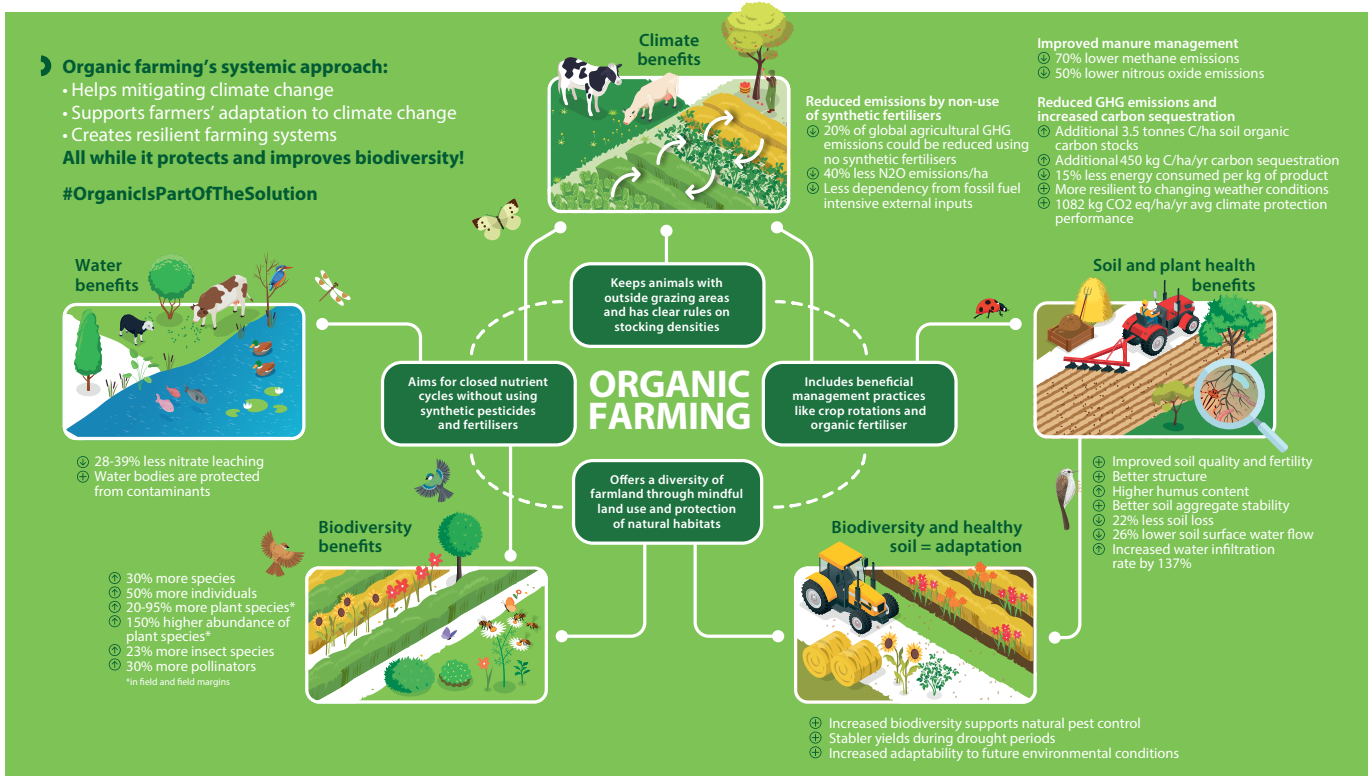
EU-Label and Examples for national Label: Germany, France, Sweden

Since 1991, the EU organic logo (a white star leaf on a green background) on food has guaranteed that the EU regulation for organic farming has been complied with. In the case of processed foods, it means that at least 95% of the ingredients must come from organic production and only the additives permitted in organic farming have been used (for additives, see chapter “Nutriscore” above). It is a legally regulated certification and labelling, not an industry label or a private label. This means that the inspection is carried out independently and in accordance with legal requirements that were developed by the legislator in a democratic process.

The EU organic logo is mandatory for all food products traded in the EU that use the prefixes eco-, bio-, ecologic or organic in the respective national languages, i.e. vice versa: if the EU organic logo is NOT included on the product, a statement with one of these prefixes and terms is misleading and forbidden!

In Germany, the state organic seal (hexagonal with “bio” lettering) was introduced in 2001. Similar seals had been developed in other EU Member States even earlier. In addition to the obligatory EU organic logo, producers can also label their organic products with those national seals or the logos of private organic associations (some already existed before the regulation at EU level in 1991). In contrast to other sustainability labels, the organic label does not stand for a measurement or modelling, but defines specifications for management measures that benefit all ecosystem services according to the current state of knowledge. From the outset, the requirements included effects on climate, biodiversity, health, soil protection, soil fertility, water protection and nutrient efficiency. It is an ecosystem-based approach that also takes interactions into account. What is missing are specifications on the impact at the landscape level (e.g. on water consumption or landscape elements such as hedges), on the energy balance and on socio-economic sustainability. Even though organic farming organisations have done pioneering work on the latter factors, there are no regulations in the legal requirements.

ORGANIC AGRICULTURE AND ITS BENEFITS FOR CLIMATE AND BIODIVERSITY



References: <https://bit.ly/3U25Xve>

"REGIONAL" - NOT REGULATED BY LAW AT EU LEVEL



where does it come from?

where was it processed?

what is the regional share?

Independently audited by Kontroll GmbH

Example: German "regional window" (regulated by law in Germany)

Regional sales channels promote value creation in agriculture in various ways: Weekly markets, farmers' markets or farm shops give farmers the opportunity to make direct contact with their customers. This enables them to market their products more effectively, take customer wishes and suggestions on board, and adapt their products specifically to the needs of consumers. By selling through regional sales channels, farmers can often achieve higher added value as there is no need for intermediaries. Regional processing also strengthens the local economy, as the money stays within the region and helps to create jobs and improve the infrastructure.

When choosing between a conventionally produced food of regional origin and an organic product that does not come from the region, consumers often opt for the regional origin, which is positive for the reasons mentioned above.

However, it is not true that "regional" also means sustainability per se. "Regional products" are not subject to any sustainability criteria during production and the term "regional" has not yet been uniformly defined or protected because standardisation is difficult³⁷. The regulations on origin labelling and regional claims therefore vary widely across Europe. The regional indications range from administrative boundaries (administrative district) to natural landscape areas (e.g. Wallonia in Belgium). In the case of the German regional window, for example, "regional" can mean the whole of Germany excluding Heligoland³⁸.

Vegetable cultivation and animal husbandry are only subject to the minimum legal standards. If the products do not carry a special, precisely defined seal of quality, then regional products are normal conventional products whose main advantage lies in the promotion of the local economy, but not in particularly sustainable production. Apart from frozen food and the import of products from overseas and contrary to what is often claimed, transport energy only accounts for a very small proportion of the total energy consumption of the food production chain. The choice of transport mode can have a much greater impact on GHG emissions than the transport distance³⁹.

Of course, it is good to support regional producers and processors. Preserving the regional environment and natural resources is just as important as supporting the regional economy. But the best regional is still organic AND regional⁴⁰.

"CONTROLLED INTEGRATED"

LEGAL BASIS FOR AGRICULTURAL PRODUCTION, BUT SO FAR ONLY PARTIALLY IMPLEMENTED



Example illustration of a seal in Germany

The use of "integrated pest management" has been mandatory for all farmers in Europe since 2009⁴¹. Therefore, the term "controlled integrated", in principle, only describes the legal basis that applies to all farmers and is not a special sustainability label.

Integrated pest management

The main motivation behind "integrated pest management" (IPM) in the early 1990s was to minimise the destruction of beneficial organisms and the inappropriate use of pesticides, thereby reducing pesticide consumption. The central instrument of the IPM is the so-called pest threshold principle: in the run-up to pesticide applications, infestation levels of the harmful organisms should be determined and extrapolated in order to then decide whether pesticide use is actually worthwhile. This is the case when inaction costs more than the use of pesticides. Preventive plant protection includes, for example, the selection of regionally adapted and resistant varieties/species, appropriate cultivation and care methods (e.g. diversified crop rotation and breaks in cultivation) and the promotion of beneficial organisms in agriculture. Officially, this does not include not using or reducing mineral fertilisers, although this significantly reduces the susceptibility of plants to disease.

However, the legally prescribed "integrated pest management" is hardly applied across the board in Europe. For example, the use of pesticides that are applied in advance as seed dressing (coating of the seed) before any infestation has taken place does not in any way fulfil the damage threshold principle. In Europe, only 10 to a maximum of 15 per cent of farmers implement this principle, although it is theoretically required by law⁴². To date, most national action plans do not contain any specific requirements for translating the general principles of integrated pest management into measures that can be verified in practice. Only in Ireland, Sweden, and the Netherlands are there any attempts to do so.

The requirements of the EU's Common Agricultural Policy (CAP) for receiving direct payments also do not contain any requirements for integrated pest management.

Conclusion: the label "controlled integrated" is pure greenwashing and does not go beyond the legal requirements. It does not even systematically check whether the requirements of integrated pest management are being met at all.

FOREST LABEL

SOME LEGAL REGULATIONS BUT NO STANDARDISED LABEL

Forest certification is widely recognised as the most important initiative in the last decade to promote better forest management. It is supported by both non-governmental organisations and the private sector. Forest certification has led to greater recognition of the importance of environmentally and socially responsible timber products and the involvement of producers, consumers, and retailers in positive efforts to clean up the timber industry. Official statistics show that more and more forestry companies are investing economic resources to improve the environmental profile of their processes, products, and services⁴³.

There are several forest certification organisations worldwide, but the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC) have become the most widely used standards on a global scale⁴⁴. The FSC system emerged in the 1990s in response to the failure of national governments to combat the loss of high conservation value forests, particularly in the tropics. After the emergence of the FSC, industry and forest owners became concerned about the cost of complying with the various FSC standards. As a result, the less ambitious PEFC programme was launched in 1999.

According to the latest statistics, 390 million hectares worldwide are certified with forest labels (9 % of the global forest area), with FSC reporting a total certified area of 170 million hectares and PEFC 296 million hectares. Both are mainly represented in the northern hemisphere, less so in tropical areas. There is currently dual certification in 33 countries with 86 million hectares⁴⁵. In Europe, 81 million hectares of forest are certified according to PEFC and 56 million hectares according to FSC⁴⁶.

At its core, sustainable forest management should maintain all ecological functions and the resilience of the ecosystem within a natural range of variation. The main challenge is to develop and implement management strategies that focus on a scalable, multipurpose approach that extracts multiple forest resources while promoting biodiversity, water and soil conservation, and carbon sequestration⁴⁷.

There is a wealth of scientific evidence that high species diversity maximises ecosystem function and stability. However, although ecological systems can be characterised by their species diversity and composition, it is the way in which these species interact with each other that ultimately affects the resilience of the ecosystem. The loss of a highly connected species can trigger cascading effects that amplify the impact of the extinction of that species. This means that biodiversity is linked to the functions of the forest ecosystem and that the functions of the forest ecosystem correlate with the resilience of the forest. Increasing diversity in managed forests therefore generally leads to well-functioning, resilient ecosystems. In addition, the increasing fragmentation of the forest landscape disrupts ecosystem processes, which significantly impairs the resilience of forests⁴⁸.

Certification schemes for sustainable forests are generally based on the *Montreal Process for the Conservation and Management of Temperate and Boreal Forests*, which is based on seven criteria:

- Conservation of biodiversity
 - Maintaining the productive capacity of forest ecosystems
 - Maintaining the health and vitality of the forest ecosystem
 - Conservation and maintenance of soil and water resources
 - Maintaining the contribution of forests to the global carbon cycle
 - Maintaining and increasing long-term, diverse socio-economic benefits to meet the needs of society
 - Legal, institutional and economic framework for conservation, and sustainable development
- Forest management

Although these criteria are useful, it must be emphasised that they do not fully reflect the complexity of forest ecology as described above. They are intended as a general guide to sustainable forest management⁴⁹.

FSC AND PEFC - NOT REGULATED BY LAW



The FSC programme was created in 1993 in response to the failure of international bodies to combat the loss of high conservation value forests, particularly in the tropics⁵⁰. The FSC programme was initiated and continues to be managed by a non-governmental organisation; membership is open to private, community, and indigenous landowners as well as many state forest owners. The FSC is a performance-based system based on a set of 10 binding principles and 56 criteria covering economic, social, and environmental aspects.



The PEFC programme was established in 1999 by the national forestry interest groups of several European countries as the forestry sector's response to the FSC label and now acts as an umbrella organisation that supports forest certification schemes through independent third-party certification. The PEFC standards are based on the criteria and indicators defined by governments as a common - but non-binding - framework within the Pan-European Process. Most of these criteria and indicators are not performance-based. Consequently, there are no binding, standardised criteria to which the national PEFC systems must adhere. This means that national PEFC systems can vary greatly from country to country and even within a country.

Governments have adopted these guidelines, although environmental and social interest groups have expressed concerns about their content. The lack of minimum requirements has also been criticised by the FAO. In addition, the decision-making process in a number of Member States is such that economic interests can always outweigh the combined interests⁵¹.

Comparison between the PEFC standard and the FSC standard, example Sweden

<i>Forestry Practice</i>	<i>FSC</i>	<i>PEFC</i>
Indigenous peoples' rights	Requires respect for Sami customary grazing rights	Requires dialogue but no respect for Sami customary grazing rights
Set aside areas	5% of productive forestland	0% -5% of productive forest land
Harvesting in mountain forests	Restricted	No specific restrictions
Protection of key biotopes	Protected	Temporarily but not permanently protected
Retention of eternity trees	10 trees per hectare	5 - 10 trees per hectare
Use of fertilisers	Restricted	Not restricted
Use of chemicals	Relatively strict	Less strict
Ecological landscape planning required	Yes (>5000 ha)	No requirements

Source: "Behind the Logo", p. 19

A 2020 study found that the FSC programme is much more detailed and prescriptive than the PEFC in almost all aspects considered in forest certification. Most of the elements that are considered in FSC Principle 6 (environmental impacts) are either only dealt with superficially or not at all in other programmes, including the PEFC. Furthermore, the study describes that the scope of the FSC programme is broader, as it includes labour rights, indigenous peoples' rights and a wide range of environmental regulations, while the scope of PEFC seems to be limited to forest management rules and allowing flexibility for continuous improvement, which are primarily required and implemented in the forest management plans⁵².

In order to check whether certification improves forest management, certification must take place at the level of the forest management unit, which is the case with the FSC label. In the case of certification at regional or national levels, as with the PEFC, the certifier cannot check what is actually happening in the forest.

Criticism of the FSC

The FSC label stands for sustainable timber cultivation and is monitored by independent bodies. However, this mainly applies to timber produced in Europe - this is much more difficult for tropical timber.

Points of criticism include

- The strong expansion of the FSC certificate is at the expense of quality.
- Some studies show economic links between certifying organisations and forest managers.
- The FSC seal allows a certain proportion of non-certified wood in an end product. For products made from wood fibres, the proportion of non-certified wood can be up to 82.5%.
- A company with FSC certification does not necessarily have to operate solely according to the FSC criteria. It can label some of its goods with the FSC logo via product chain certification. However, this does not mean that they are not allowed to sell non-certified timber at the same time.
- The FSC certifies both plantation timber and timber from primary forests. Both are heavily criticised by environmentalists.

The problems in less developed countries are also sometimes similar to other products (e.g. "sustainable soya") and are difficult for certifiers to control: As national controls in these countries are patchy at most levels (due to a lack of structures, lack of financial resources or lack of political will), it is extremely easy to trade in false certifications.

Despite all the criticism, the FSC label is the most comprehensive label available internationally. The Federal Research Thünen Institute in Germany, which also conducts research into sustainability in the timber industry⁵³, advises consumers to always look for the FSC label when buying wood, wood products, and paper.

Excursus: Naturland label

The "Naturland Guidelines for Ecological Forest Utilisation" were developed in 1995 by the organic association Naturland together with the environmental associations Friends of the Earth Germany, Greenpeace, and Robin Wood in order to ensure credible organic certification of forest enterprises, comparable to the organic certification of agricultural enterprises. As part of FSC group certification, organised by Naturland's Forest and Timber Division, the participating Naturland forest enterprises in Germany also undertake to comply with the FSC standard⁵⁴.

“DEFORESTATION-FREE” - REGULATED BY LAW

Deforestation and forest degradation are the main causes of the two most significant challenges of our time - global warming and the loss of biodiversity. The Food and Agriculture Organization of the United Nations (FAO) estimates that 420 million hectares of forest were cut down between 1990 and 2020⁵⁵. This corresponds to an area larger than the European Union. All in all, according to FAO estimates, 178 million more hectares of forest were cut down than were newly planted or regenerated during this period - an area three times the size of France. The main cause of deforestation and forest degradation is the expansion of agricultural land for the production of products such as soya, beef, palm oil, timber, cocoa and coffee, which we import. As a major economic bloc and consumer of these products that lead to deforestation and forest degradation, the EU is contributing significantly to this problem⁵⁶.

The EU has therefore adopted a legally binding regulation. A new EU regulation aims to ensure the goal of deforestation-free products by introducing binding corporate due diligence obligations. EU Regulation No. 2023/1115⁵⁷ for deforestation-free products was adopted by the European Parliament and the Council of the European Union on 31 May 2023. It entered into force on 29 June 2023 and will apply - after a transitional period of 18 months - from 30 December 2024.

In order to minimise the EU contribution to global deforestation and forest degradation and to reduce the EU contribution to greenhouse gas emissions and global biodiversity loss, relevant raw materials and products may in future only be placed on the EU market, made available or exported from the EU if they

- are deforestation-free,
- have been produced in accordance with the relevant legislation of the country of production and
- a so-called due diligence declaration exists for them.

Deforestation-free means that the relevant raw materials must not have been produced on land that was deforested after 31 December 2020 or - in the case of wood and wood products - that the wood was harvested from the forest without forest degradation having occurred there after 31 December 2020.

The regulation covers the relevant raw materials such as wood, cocoa, coffee, rubber, oil palm, soya, and cattle and the products made from them.

In the course of the negotiations, however, the European member states have weakened the regulation and left loopholes. Verifiability in the individual countries is also an enormous challenge. The law is an important step, but in its current form it is not yet a reliable trend reversal for the protection of forests. It must be improved over the next two years. This is because it is essential that a comprehensive range of products that cause deforestation be considered in order to stop deforestation. Not only cocoa, coffee, wood, leather and soya must be produced without deforestation, but also palm oil and the raw materials for paper products.

It is a problem that agrofuels and maize are not properly recorded either, and improvements need to be made here. Furthermore, banks can still co-finance deforestation because the regulations do not yet apply to financial institutions, improvements must be made here too. Under pressure from the industrial lobby, the rights of indigenous peoples have been curtailed.

The indigenous people had demanded that their land ownership rights be respected in accordance with international law and international standards. However, this was not implemented and was instead watered

down. Now, the mandatory risk assessment for the industry only requires that there are consultations with indigenous peoples in the country of production and that their claims to utilisation or ownership are taken into account. Despite the weaknesses of the regulation, it is a big step forward.

Although the label has a legal basis, it must still be categorised as having only limited credibility due to the above-mentioned gaps and difficulties in monitoring.

CLIMATE FOREST LABEL – NOT REGULATED

An international team of researchers analysed 29 of 87 forest protection projects. They found that 90 per cent of the resulting certificates were worthless. 89 million tonnes of CO₂ were estimated to have ended up as phantom certificates on the voluntary carbon market. This is roughly equivalent to the annual CO₂ emissions of Greece and Switzerland combined⁵⁸.

THE CONSUMER SHOULD FIX IT?

FAITH IN THE FREE MARKET AND THE INFORMED CONSUMER

Enlightened consumers opt for the most efficient, sustainable, ecological or fairly produced product if they are sufficiently well informed. In my view, this is a beautiful myth of our liberal, individualistic consumer society. There is certainly something to the idea of providing consumers with the knowledge they need to make good, sustainable purchasing decisions for themselves and the planet with as much easily accessible information as possible. However, there are three levels that make this concept considerably more difficult:

1. HOW DO YOU CALCULATE "SUSTAINABLE", "CLIMATE-NEUTRAL", "ENVIRONMENTALLY FRIENDLY"?

In this compilation, we see how complicated it is to develop realistic calculations for the assessability of these terms. Whether they are measurements or models, they are extremely complex and very error-prone. Even if one aspect is not taken into account, it can distort the entire assessment and render it useless. For Christian Huyghe, Scientific Director for Agriculture at the French Institute for Agricultural and Food Research (INRAE), it is difficult to assign an overall sustainability value to a food, as different aspects such as the protection of biodiversity, climate protection or environmental pollution do not necessarily fit together and are sometimes even contradictory.

"Ecolabels give the impression that all environmental issues are positively related, which is not the case: they can be very good on biodiversity and very bad on carbon footprint."⁵⁹

2. HOW CAN CONSUMERS ACCESS THIS INFORMATION AS EASILY AND SIMPLY AS POSSIBLE?

As long as there is no "food literacy" subject in schools, it is difficult to convey information to consumers, as they are usually unable to distinguish between information and advertising. It is also not certain whether they are interested in the information at all, as many people have bigger problems in everyday life than racking their brains over how good or sustainable their food is.

3. HOW TO AVOID GREENWASHING & CONSUMER DECEPTION?

How do you regulate the difference between advertising that is allowed to claim virtually anything (tobacco and alcohol advertising was only restricted in recent history) and sustainability labels? There is a significant proportion of consumers who do not know how to recognise healthy and sustainably produced products among all the sustainability labels on offer⁶⁰. There are 230 different eco-labels on the EU market. The EU Commission's 2020 study revealed that up to 50 per cent of all environmental claims on or about products do not currently stand up to critical scrutiny⁶¹.

These difficulties bring us to the level that is often ignored when it comes to informed consumers and their right to make choices: *We have governments whose job it is to regulate things.*

The consumer, who is also a citizen and a voter, elects representatives who have the task of ensuring that the economy functions in such a way that dangers to the individual are averted and vital resources are not destroyed. They are called politicians. Those of them with great, temporary responsibility are called ministers and chancellors.

They have the task of creating framework conditions that enable a good life and are orientated towards the common good. As government and representatives of the people, as ministers and members of parliament, they negotiate rules and laws together with experts that ensure, for example, that buildings do not collapse, that hoovers do not cause electric shocks or that bridges can be inspected by the "TÜV". Over the last few centuries, they have also ensured that there are laws on food quality and hygiene that prevent illness. But why, I ask myself, does it seem so frowned upon today to lay down rules for a good life and survival?

Why have a whole series of agriculture ministers, who are also responsible for nutrition, refrained from establishing better rules for the quality of our food since the end of the last century? Why did the buzzwords "voluntary commitment" and "responsible consumer" gradually make such a steep career for themselves and put the brakes on almost every attempt to make it easier for consumers to eat healthily and sustainably without the need for long-term labelling reading? Why is it, that every politician who tries to make our agricultural and food system more sustainable through framework regulations is met with angry cries of "bureaucracy", "paternalism", and "planned economy"?

Why do we still allow ideological belief in the market to be accepted with the phrase "the market should sort it out", even though there are countless examples of how "the market" cannot generate sustainability and this argument is used to thwart responsible politics? Why are we still falling for the narrative that individual freedom can only be guaranteed if there are as few rules as possible?

Nobody believes in that in the area of road safety either. In the food sector, such an attitude only benefits an industry that makes more profit the fewer rules there are. However, we humans will not get very far with the long-term protection of our resources and our health if we behave like a pubescent group of hooligans who do not want to accept any rules. This is demonstrated by countless reports on the negative effects of our current agricultural and food system on ecosystems and health. We have enough scientific evidence and solutions. We act accordingly when it comes to the safety of hoovers. But not when it comes to the sustainability of food?

In my view, the refusal to establish rules for a healthy and sustainable food system must simply be described as a political failure. This is because the responsibility to serve the common good and prevent harm by developing and negotiating rules is simply not being honoured.

In principle, the 2020 report by the Scientific Advisory Board on Agricultural Policy, Food and Consumer Health Protection (WBAE) on sustainable nutrition also went in this direction, when it evaluated German food policy. The authors expressed *"criticism of the excessive individualisation of nutritional responsibility. In this respect, Germany is a latecomer compared to other European countries. [...] Policies for more sustainable nutrition require significantly more and more interventionist instruments to be used in Germany than in the past."*

And further:

*"A coherent food policy that comprehensively addresses the considerable current problems with regard to (co-)caused diseases as well as climate, environmental and animal protection is currently not recognisable in Germany. In the view of the WBAE, the problems in the area of nutrition are so great and the need for change so fundamental that the food system must not merely be reformed, but fundamentally transformed. The WBAE is of the opinion that the great importance of nutrition and the need for a strategic nutrition policy have not yet been sufficiently addressed by the political parties."*⁶² (Übersetzung d. Autorin)

This also applies to Europe as a whole. It was not for nothing that the last EU Commission launched the Farm-to-Fork-Strategy for this reason. However, it does not seem to have the courage to maintain it. Dr. ir.

Sjoukje Heimovaara, President of Wageningen University, a leader in European agricultural and food policy advice, said the following in November 2024:

"There is societal support for active government intervention to promote healthier and more sustainable consumers. But the question remains: how far should we go to guide consumer choices? Do we dare to limit our own choices in order to protect those of our children?"^{61a}

TAKING THE PRECAUTIONARY PRINCIPLE SERIOUSLY

The European Union's environmental policy is based on the precautionary principle (Article 191 of the Treaty on the Functioning of the European Union⁶³). The two dimensions of the precautionary principle are risk prevention and resource conservation.

Risk prevention means taking preventive action to avoid environmental or health damage and hazards from the outset, even when knowledge of the nature, extent, probability, and causality of such damage is incomplete or uncertain.

Resource conservation means that we treat natural resources such as water, soil and air with care in order to safeguard them in the long term and preserve them in the interests of future generations.

As outlined above, our knowledge of the negative environmental and health effects of our agricultural and food system may still be incomplete in detail, but it has long since ceased to be uncertain. It is therefore a legally defined mandate to establish rules in order to protect resources, as this is the only way to avert danger. If we fail to do so, our ecosystems could collapse. And then sustainability labels, whether credible or not, will no longer help us.

Conclusion: It is not the consumer's job to ensure that unsustainably produced food is no longer bought, it is up to politicians to ensure that it is not produced. This will certainly never work 100%, but without rules, it will not work at all.

POLICY RECOMMENDATIONS FOR THE EUROPEAN LEVEL

MAINTAIN THE GOALS OF THE FARM TO FORK STRATEGY.

"... Creating a conducive food environment that facilitates healthy and sustainable food choices will benefit the health and quality of life of consumers and also reduce health costs for society. [...] Despite the growing urbanisation of society, people want a closer relationship with their food, which should be fresh, less processed and sustainably produced. [...] This strategy aims to reward those farmers, fishermen and other actors in the food chain who have already made the transition to sustainable practices, to enable others to make the transition and to create additional business opportunities. [...] There is an urgent need to reduce dependence on pesticides and antimicrobials, reduce the overuse of fertilisers, intensify organic farming, improve animal welfare and prevent the loss of biological resources. to reverse diversity." EU Commission 2020

Further development of the Common Agricultural Policy:

Direct payments only for measures that benefit the common good: ecologically, socially, and economically (public money for public services).

It is better to consider the processing stage in the Nutri-Score or switch to the NOVA system.

Planet Score instead of PEF for sustainability modelling in the food sector and develop it further.

Revise authorisation criteria for additives in foods in line with the latest scientific findings.

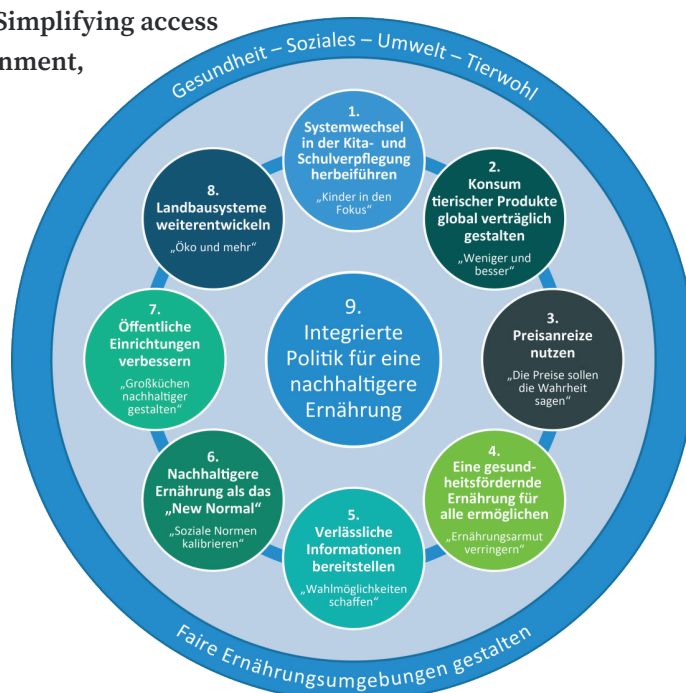
POLICY RECOMMENDATIONS FOR THE NATIONAL LEVEL IN GERMANY:

Include nutritional competence as a standard subject in the curricula of primary and secondary schools in the federal states.

Development of a guideline for food advertising. Simplifying access to healthy food in the everyday nutritional environment, especially in communal and out-of-home catering.

Adaptation of social benefits to a reference shopping basket with sustainable food.

Follow the recommendations of the 2020 WBAE report:

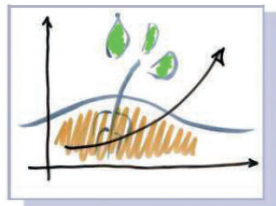


Source: WBAE-Gutachten: <https://kurzlinks.de/4pbx>

- [1] European Commission, Guide to the implementation/application of Directive 2005/29/EC on unfair trading practices Business Practices, SWD(2016) 163.
- [2] Eurobarometer 501, 2020: Europeans' attitudes towards the environment. Link: <https://europa.eu/eurobarometer/surveys/detail/2257>
- [3] European Commission (ed.) (2020): Environmental claims in the EU - Inventory and reliability assessment. <https://op.europa.eu/en/publication-detail/-/publication/f7c4cb8b-f877-11ee-a251-01aa75ed71a1/language-en>
- [4] GfK et al, Consumer market study on environmental claims for non-food products, for the European Commission. Commission, DG Justice and Consumers, July 2014
- [5] https://www.verbraucherzentrale.nrw/sites/default/files/2022-09/sinus_vznrw_wahrnehmung_klimaneutrale_produkte_report.pdf
- [6] SINUS study "Perception of climate-neutral products". Link: https://www.mehrwert.nrw/sites/default/files/2022-09/sinus_vznrw_wahrnehmung_klimaneutrale_produkte_report.pdf
- [7] <https://www.sueddeutsche.de/wirtschaft/verbraucherschutz-klimaneutral-klimaschutz-produkte-1.5735090>
- [8] "Commission sets the carbon farming initiative in motion". Press release European Commission dated 27 April 2021 (https://ec.europa.eu/clima/news-your-voice/news/commission-sets-carbon-farming-initiative-motion-2021-04-27_en?s=09).
- [9] Beste, A. (2023): Carbon farming - climate protection or greenwashing? An analysis of the European Commission's Carbon Farming Initiative. In: Critical Agricultural Report 2023, Link: https://www.gesunde-erde.net/media/beste_carbon_farming_klimaschutz_oder_greenwashing_1.pdf
- [9a] <https://eur-lex.europa.eu/eli/reg/2024/3012/oj/eng>
- [10] <https://www.ecosystemmarketplace.com/articles/voluntary-carbon-markets-top-1-billion-in-2021-with-newly-reported-trades-special-ecosystem-marketplace-cop26-bulletin/>
- [11] <https://www.dw.com/de/carbon-farming-1%C3%B6sung-f%C3%BCr-den-klimawandel-oder-greenwashing/a-61537319>
- [12] <https://www.green.earth/blog/how-do-farmers-earn-thousands-of-dollars-from-carbon-credits>
- [13] <https://www.iatp.org/big-corporations-driving-eus-carbon-farming-agenda>
- [14] <https://www.boell.de/de/2024/01/09/carbon-farming-greenwashing-durch-humuszertifikate>
<https://www.arc2020.eu/wp-content/uploads/2024/05/LandSqueeze.pdf>
- [15] <https://www.dw.com/de/carbon-farming-1%C3%B6sung-f%C3%BCr-den-klimawandel-oder-greenwashing/a-61537319>
- [16] <https://globalecolabelling.net/organisations/>
- [17] <https://www.ral-umwelt.de/wp-content/uploads/sites/5/2019/04/uba-40jahreblauerengel-publikation-de-web-bf.pdf>
- [18] <https://www.blauer-engel.de/de/blauer-engel/unser-zeichen-fuer-die-umwelt/wissenschaftlich-erarbeitet>
- [19] Policies for a more sustainable diet: Developing an integrated food policy and shaping fair food environments. Report of the Scientific Advisory Board on Agricultural Policy, Food and Consumer Health Protection (WBAE) at the BMEL. Link: https://www.bmel.de/SharedDocs/Downloads/DE/_Ministerium/Beiraete/agrarpolitik/wbae-gutachten-nachhaltige-ernaehrung.pdf?__blob=publicationFile&v=3
- [20] <https://www.nature.com/articles/s41893-020-0489-6>
- [21] Chassaing et al (2015). Dietary emulsifiers impact the mouse gut microbiota promoting colitis and metabolic syndrome. Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4910713/>
- [22] Kayser-Bril (2020). Despite transparency, the Nutri-Score algorithm faces strong resistance. Link: <https://algorithmwatch.org/en/nutriscore/>
- [23] <https://www.boelw.de/news/boelw-zur-einfuehrung-des-nutriscore-in-deutschland/>
- [24] Kretschmar U. et al (2021): Sustainability and quality of organic food. = FIBL Dossier 1405
- [25] EFSA (2021). The 2019 European Union report on pesticide residues in food. Link: <https://www.efsa.europa.eu/sites/default/files/2021-04/6491.pdf>
- [26] <https://www.boelw.de/news/boelw-zur-einfuehrung-des-nutriscore-in-deutschland/>
- [27] FAO (2019). Ultra-processed foods, diet quality, and health using the NOVA classification system. Link: <http://www.fao.org/3/ca5644en/ca5644en.pdf>
- [28] FAO (2019). Ultra-processed foods, diet quality, and health using the NOVA classification system. Link: <http://www.fao.org/3/ca5644en/ca5644en.pdf>
- [29] <https://www.sarah-wiener.eu/hochverarbeitete-lebensmittel-brauchen-kennzeichnung/>
- [30] <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022SC0085>
- [31] <https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:52023PC0166>
- [31a] <https://www.euractiv.de/section/energie-und-umwelt/news/eu-abgeordnete-wollen-gegen-greenwashing-vorgehen/>
- [32] <https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:32021H2279>
- [33] IDDRI (2021): Environmental food labelling: revealing visions to build a political compromise. Link: <https://www.iddri.org/en/publications-and-events/study/environmental-food-labelling-revealing-visions-build-political>
- [34] Werf et al, 2020. Towards the representation of organic farming in the life cycle assessment. Nature Sustainability. Link: <https://www.nature.com/articles/s41893-020-0489-6>
<https://foodpolicycoalition.eu/wp-content/uploads/2022/03/Joint-letter-on-concerns-over-PEF-methodology-for-agri-food-products.-MAR-2022..pdf>

- [35] <https://www.planet-score.org/>
- [36] <https://www.pleinchamp.com/actualite/le-planet-score-a-la-conquete-de-l-europe>
- [37] Becker (2020): What is regional? In: Consumers and Law (VuR).
- [38] <https://www.regionalfenster.de/das-zeichen/die-region-im-regionalfenster.html>
- [39] Jungbluth, N. (2010): The life cycle assessment of food production and consumption.
- Märtlbauer/Hagen (2014): Regionality - between seduction and enticement? In: Zeitschrift für das gesamte Lebensmittelrecht (ZLR) 2014.
- WBAE (2020): Expert opinion Policy for a more sustainable diet: developing an integrated food policy and shaping fair food environments. Online: https://www.bmel.de/SharedDocs/Downloads/DE/_Ministerium/Beiraete/agrarpolitik/wbae-gutachten-nachhaltige-ernaehrung.html
- [40] Beste, A. (2023): More organic for Bavaria - Community catering as a sales driver for organically produced products with a regional focus in Bavaria - UPDATE 2023.
https://www.gesunde-erde.net/media/broschuere_studie_gemeinschaftsverpflegung_update_2023_web.pdf
- [41] According to Article 55 of the Plant Protection Products Regulation, the use of plant protection products must comply with the provisions of the Directive and in particular with the general principles of integrated pest management set out in Article 14 and Annex III of the Directive, and Member States had to set out in their national action plans how they ensure compliance with these principles by all professional users¹⁶.
- [42] Pimentel, D. & M. Burges (2014): Pesticides Applied Worldwide to Combat Pests. In: Peshin, R. & D. Pimentel (eds.): Integrated Pest Management. Experiences with Implementation, Global Overview, Vol. 4. Springer Science + Business Media.
- EURH (2020): Special Report 05/2020: Sustainable use of plant protection products: limited progress in measuring and reducing risks.
<https://www.eca.europa.eu/de/publications?did=53001>
- [43] Lanfredi, M. et al. (2023). In-between environmental sustainability and economic viability: an analysis of the state, regulations, and future of Italian forestry sector. Land, 12.
- [44] Lombardo, E., (2024): Why adopt sustainable forest management certifications? main drivers in Italy and Germany. Agriculture and Forestry, 70 (1)
- [45] Rocchi, L., Campioni, R., Brunori, A. & Mariano, E. (2023). Environmental certification of woody charcoal: A choice experiments application. Forest Policy and Economics, 154
- [46] FSC (2023). FSC Facts & Figures. // PEFC, (2023). PEFC Global Statistics.
- [47] Scognamillo, D.G., et al. (2023). Forest Certification in the Context of the Functional Complex Network Approach for Forest Management. Curr Landscape Ecol Rep 8, 1-10.; <https://doi.org/10.1007/s40823-022-00080-9>
- [48] Scognamillo, D.G., et al. (2023). Forest Certification in the Context of the Functional Complex Network Approach for Forest Management. Curr Landscape Ecol Rep 8, 1-10.
- [49] ibid.
- [50] Cashore, B.; Auld, G.; Newson, D. Governing through Markets: Forest Certification and the Emergence of Non-State Authority; Yale University Press: New Haven, UK, 2004
- [51] FERN (2001): Behind the logo. An environmental and social assessment of forest certification schemes.
<https://www.fern.org/fileadmin/uploads/fern/Documents/Behind%20the%20logo.pdf>
- [52] Gutierrez Garzon, et al. (2020): A Comparative Analysis of Five Forest Certification Programmes. Forests, 11, 863. <https://doi.org/10.3390/f11080863>
- [53] <https://www.thuenen.de/en/institutes/forestry/projects-1/verbreitung-von-forstzertifizierung>
- [54] https://www.naturland.de/images/01_naturland/documents/naturland-richtlinien_verarbeitung_holz.pdf
- [55] FAO (2020): Global Forest Resources Assessment 2020; file:///Users/dr.andreabeste/Downloads/ca9825en.pdf
- [56] European Commission (2021): Questions and answers on the new regulation on deforestation-free Products.
https://ec.europa.eu/commission/presscorner/api/files/document/print/de/qanda_21_5919/QANDA_21_5919_DE.pdf
- [57] EU Regulation No. 2023/1115 on deforestation-free products; <https://eur-lex.europa.eu/legal-content/DE/TXT/?uri=CELEX%3A32023R1115>
- [58] Tin Fischer and Hannah Knuth: "Green camouflaged", Zeit, 04/23 // Hartmann, K. (2024) Öl in s Feuer.
- [59] https://www.euractiv.com/section/agriculture-food/news/commission-labelling-jungle-deters-consumers-from-buying-green-food/?utm_source=piano&utm_medium=email&utm_campaign=9716&pnespid=v_M9GDsYOaRA1fyd.yywSsKPP0K_CZp2JLnhmOl0pEdm.D7U6BjHhWvXKe62pQwf-516pLMv
- [60] Interview with Lisa Völkel, Federation of German Consumer Organisations (vzbv), in bauernstimme 4/2024
- [61] <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022SC0085>
- [61a] We are having the wrong conversation about agriculture and nature. <https://www.euractiv.com/section/agriculture-food/opinion/we-are-having-the-wrong-conversation-about-agriculture-and-nature/>
- [62] WBAE (2020): Policies for a more sustainable food system Developing and implementing an integrated food policy, Shaping fair food environments Expertise 2020.
https://www.bmel.de/SharedDocs/Downloads/DE/_Ministerium/Beiraete/agrarpolitik/wbae-gutachten-nachhaltige-ernaehrung.pdf?__blob=publicationFile&v=3
- [63] <https://eur-lex.europa.eu/EN/legal-content/summary/treaty-on-the-functioning-of-the-european-union.html>

ABOUT THE AUTHOR



Büro für Bodenschutz &
Ökologische Agrarkultur
Kurfürstenstr. 23, 55118 Mainz
www.gesunde-erde.net

DR. AGR. ANDREA BESTE

Graduate geographer and agronomist, founded the "Büro für Bodenschutz & Ökologische Agrarkultur". The office offers international analyses and advice on sustainable agriculture & agricultural policy.

