Climate

Strategy 2.0

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Executive Summary

Imprint

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Preamble

Preamble

Global warming and climate change are universal environmental problems that mankind contributes to by using fossil fuels and producing greenhouse gas emissions. Transitioning from the use of fossil raw materials to renewable energies constitutes one of the greatest global challenges over the coming decades. Agriculture is acutely affected by climate change and must adapt to new climate conditions worldwide. In general, agriculture has a special role to play because it ensures the survival of mankind through the production of food. The greenhouse gas emissions resulting from agricultural production are relatively low in comparison to other sectors and frequently originate from natural processes that for the most part cannot be avoided. Nonetheless, it is also the agricultural sector's responsibility to continue along the path of reducing greenhouse gas emissions and conserving resources. Through the cultivation and use of sustainable raw materials and renewable energies as well as through carbon sequestration in the soil, agriculture and forestry are an important part of the solution to climate protection.

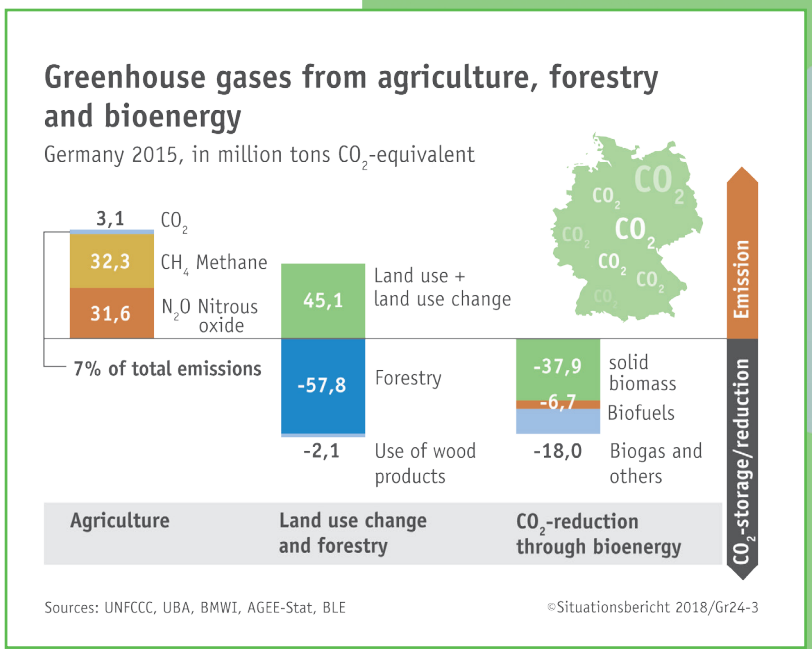
Farmers in Germany take climate protection very seriously because they are directly affected. They also want to fulfil their responsibility to contribute to climate protection. In its Climate Strategy 2.0, German agriculture focuses on strategic goals to increase climate protection efforts, to continue to reduce greenhouse gas emissions and calls for solutions when it comes to adapting to climate change. With Climate Strategy 2.0, the German Farmers' Association takes stock of its 2010 Climate Strategy. Climate Strategy 2.0 further develops these ideas and points to the current climate protection efforts as well as approaches and measures for the coming years that aim to deliver these goals. Necessary political steps as well as conflicts of interest will also be addressed. German agriculture calls for a scientifically sound debate on the opportunities and limitations of climate protection in agriculture in Germany while also taking into account the potential effects of shifts caused by national climate policy. Farmers and forest owners in Germany, in comparison to other sectors nationally and agriculture internationally, are on the right track and will also continue to participate in future to improve climate protection efforts and reduce greenhouse gas emissions. Policy and science are therefore urged to accompany farmers on this path and to support them with advice and support programmes.

Climate Strategy 2.0

Climate Strategy 2.0

Climate protection and adaptation to climate change are among today's major global issues. All sectors of the economy and society are called on to contribute to climate protection. Back in 2010, the German Farmers' Association together with its regional associations adopted a climate strategy, thereby offering policy, science, the media and society an opportunity to engage in dialogue on climate protection issues in farming. The Climate Strategy 2.0 for German agriculture and forestry provides an interim assessment of what has already been achieved, and sets the course for the goals and required measures. Building on its own targets with a broad catalogue of measures, the Climate Strategy 2.0 aims to describe how agriculture will contribute to climate protection by 2030.

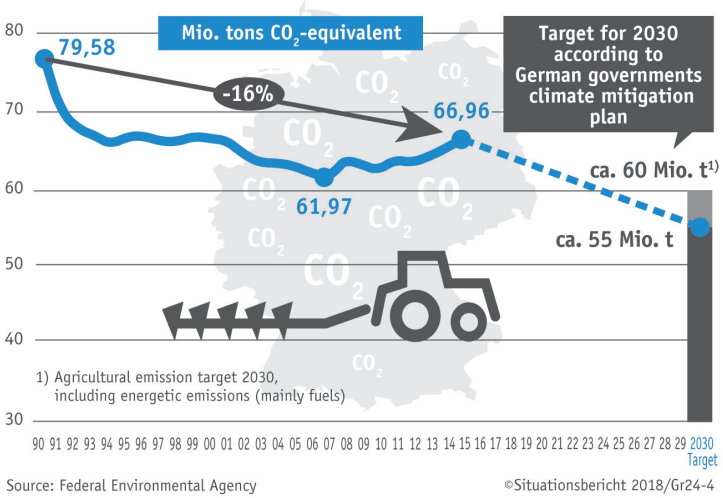
The fact that agriculture and forestry have a special role to play in climate protection has been acknowledged in climate policy at international, European and national level in recent years. The sector's primary task is to provide food. At the same time, farming and forestry is the only sector that already contributes to climate protection through biomass production, capturing CO_2 in harvested produce and the soil. Through the cultivation of renewable raw materials and the use of bioenergy, agriculture and forestry are also part of the solution to climate change and help other sectors (transport, heating and energy) to achieve their climate goals.



Agriculture and forestry are more directly impacted by the effects of climate change than almost any other sector, and must adapt to the changing climate conditions and its consequences, both in crop production and animal husbandry. In order that farming and forestry can adapt to climate change, there needs to be a step change in investment in research, farms need to be provided with advice, adaptation measures in agriculture need to be promoted, and new climate-resilient varieties and breeds of plants and animals are required. The opportunities offered by new breeding techniques and new strategies to tackle diseases and pests must be used and researched without pre-conceived notions as to the result.

Climate Strategy 2.0 is an interim assessment of the achievement of the 2010 climate targets. It is clear that agriculture has already made significant progress in climate protection, reducing greenhouse gas emissions by 16 % since 1990. In comparison emissions from the transport sector remain at 1990 levels. Agriculture has also significantly increased its climate performance through production of renewable raw materials and bioenergy and could thus further help other sectors to achieve their climate objectives. In both areas, agriculture is on the right track, despite not yet reaching its goals. Only with greater political support will the objectives be achievable. Stagnation in renewable energy policy will result in a failure to achieve both the climate targets of the German Farmers' Association and those of the German government. Following a critical review of the targets set out in its 2010 climate strategy, the German Farmers' Association stands by its ambitious targets. However, in order to achieve the intermediate targets, the timeframe needs to be extended from 2020 to 2025.

Greenhouse gas emissions of German agriculture



Source: Federal Environmental Agency

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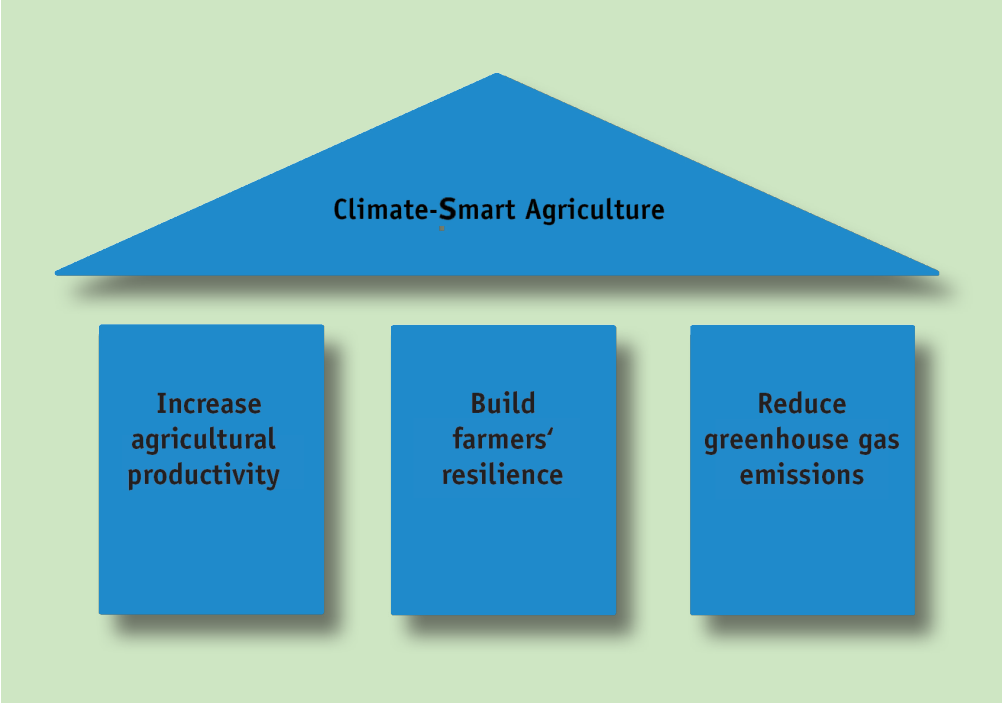
Climate protection measures must not threaten food production

At an international level, the 2015 Paris climate agreement constitutes a milestone. To date, 170 states have ratified the agreement (situation in: November 2017). 102 states that made climate commitments in Paris also incorporate agriculture in their climate policy. This falls under maintaining the overarching goal of food security. The Paris climate agreement stipulates this in its preamble:

"The Parties to this Agreement, (…) recognizing the fundamental priority of safeguarding food security and ending hunger, and the particular vulnerabilities of food production systems to the adverse impacts of climate change, (…) have agreed as follows."

It also specifically states that climate protection should not threaten food production (Article 2 (1) b)).

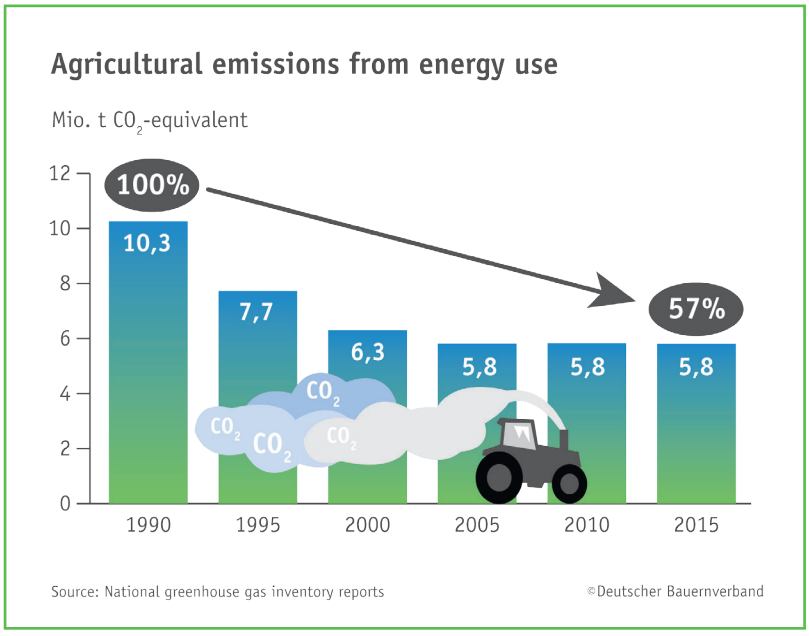
«Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;»



Agriculture works in and with nature and is based on natural processes. Emissions therefore cannot be completely avoided. Nonetheless, the agricultural sector is aware of its responsibility and is willing to contribute to climate protection through its climate strategy.

In the Climate Strategy 2.0, the sector has set itself ambitious goals in the form of political commitments. These are based on realistic assumptions taking into consideration relevance, feasibility, economic viability and practicality. The strategy identifies 20 concrete approaches and measures which will contribute to the achievement of strategic goals and should be implemented as a priority. With this strategy, the farming sector demonstrates its commitment to protect the climate. However, it also expects to receive support in its endeavours from policy, science and society.

To achieve the goals it is necessary to provide the right incentives and to create the investment climate needed. However, it is important to take into account possible conflicts with, for example, animal welfare, biodiversity and nature conservation goals. Stable management and feed, for instance, cannot be improved if plans to modernise stables are rejected by approval authorities or planning

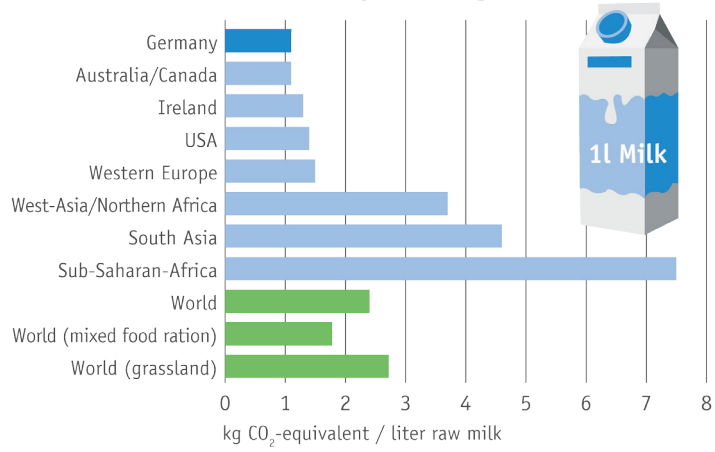


laws. In many cases, the use of agricultural land as a carbon sink cannot be further enhanced if the authorisation policy for plant protection products brings about a decline in conservation tillage methods with farmers forced to revert to ploughing. Nor can forestry's carbon sink be improved, if restrictions under nature conservation law prevent the use of forests in general or, more specifically, the planting of tree species that are particularly suitable for this purpose. In the face of such conflicts of interests, policy and science need to establish a balanced framework and encourage society's acceptance. A consistent and technically sound climate policy is required, one that is also open and unbiased but takes into account its consequences and recognises the achievements of farmers and forest owners as well as the special role of food security.

Greenhouse gas savings in farming must be achieved in the most effective and (cost-)efficient manner possible without displacing small and medium-sized farms. In the German Climate Protection Plan 2050, it is stipulated that climate protection measures should not hinder the economic development of individual economic sectors. This means that it is in the interest of effective and efficient climate protection to reduce greenhouse gas emissions on farms where this can be achieved by farmers at reasonable expense. It would be counterproductive and uneconomical to set greenhouse gas reduction targets of the same level on all farms, regardless of economic efficiency and feasibility. In particular, regional structures and the performance of farms must be taken into account. The level of ambition in climate protection in the agricultural sector is increasing. When efficiency improvements cannot deliver further mitigation (also taking into consideration eligible carbon sinks from the land use, land use change and forestry (LULUCF) sector), discussions on the international possibilities for compensation in agriculture will need to be carried out at European and international level, particularly with respect to the issue of food security set out in the Paris Agreement. Given the variable greenhouse gas efficiency of global food production, this may be necessary in order to meet the growing world population's vital need for food.

Reducing product specific emissions by improving the efficiency of agricultural processes, such as fertilization and feeding are therefore essential to tackling agricultural emissions. Extensification or abandonment of production would lead to a relocation of emissions to production systems to third countries, which are likely to be more greenhouse gas intensive. To achieve the goals of the climate strategy, a climate for investment, innovation, support as well as for productive and modern farming is therefore also needed.

Average greenhouse gas emissions of one liter milk from dairy farming



Sources: IFEU 2014, FAO 2010 ©Situationsbericht 2018/Gr24-6

Agriculture and forestry in Germany strive to

1. successfully adapt to weather extremes and climate change to guarantee the supply of safe and high quality food at all times,
2. further increase the climate efficiency of production and thereby reduce the climatic effects of agricultural products,
3. reduce greenhouse gas emissions (primarily nitrous oxide and methane emissions), attributed under international climate reporting to agriculture in Germany, by 25 % by 2025 and by 30 % by 2030 (on a 1990 baseline),
4. double CO_2 emission savings from fossil raw materials by 2030 (based on 2010) through the cultivation and use of energy crops and the use of manure for energy purposes (biogas),
5. maintain and increase carbon sequestration through carbon sinks in the land use, land use change and forestry sector, without loss of productive agricultural land.

Measures of the Climate Strategy 2.0 and their contribution to the defined targets:

Measure \ Target	Ambitious target for reducing greenhouse gas emissions (25 % by 2025, 30 % by 2030)	Further increase the climate efficiency of production	Double CO_2 emission savings from fossil raw materials and bioenergy by 2030 based on 2010	Maintain and increase carbon sinks in the land use and forestry sector
I Significantly increase the use of manure in biogas plants	+++	+++	+++	~
II Reduce emissions from manure storage significantly	++	+	+	~
III Check progress in breeding	+	+	~	~
IV Reduce emissions in feeding	+++	+++	~	~
V Reduce methane emissions in ruminants	+++	+++	~	~
VI Increase life output of dairy cows	+	+	~	~
VII Further reduce nutrient balance	+++	+++	+	~
VIII Improve fertilizer application	++	++	~	~
IX Further increase efficiency of nitrogen use	++	++	~	~
X Promote the growth of legumes	+	+	~	~
XI Reduce food waste	+	~	++	~
XII Maintain use of grasslands	+	~	~	+++
XIII Increase humus content on cropland	~	~	~	+++
XIV Preserve economic use of moorland	~	++	+	+++
XV Reduce land use for settlements and transport	~	~	+	+++
XVI Sustainably secure forest use	~	~	+++	+++
XVII Continue and optimize the use of biofuels in transport	+	~	+++	~
XVIII Save electricity	++	++	++	~
IXX Use heat efficiently	++	++	++	~
XX Strengthen advisory services for more climate protection	+++	+++	+	++

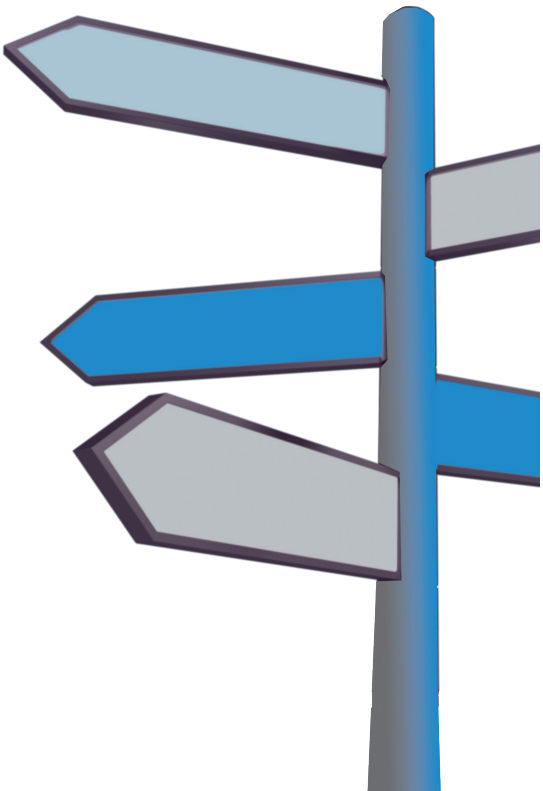
Outlook

Outlook

With their Climate Strategy 2.0, German farmers and forest owners are demonstrating the progress made in climate protection and are setting several strategic goals to increase the sector's future efforts to reduce greenhouse gas emissions. Agriculture is part of the solution and considers itself an active partner in climate protection. Agriculture's role as a producer of food can only be sustained in the future if policy and research support farmers in adapting to climate change. This requires more agricultural research into climate change challenges, new climate protection strategies as well as an expansion of advisory services in order to facilitate a transfer of knowledge in farms.

A central lever in reducing greenhouse gas emissions in agriculture is increasing the efficiency of agricultural production and thereby reducing greenhouse gas emissions per unit produced. The underlying consensus on climate policy in agriculture must be that efficiency strategies are more effective than extensification strategies. The knock-on effects of national climate protection actions that transcend sectors and countries alike must be taken into account. Relocating emissions to other less efficient countries would harm German agriculture, would not help to protect the climate and run counter to global climate protection.

Agriculture plays a special role in climate protection, one that must also be a cornerstone of future political actions. Agriculture provides products that are essential to our survival: our food. In comparison to other sectors and activities, the share of agricultural emissions is comparatively low. Furthermore, the role that allegedly climate-friendly nutrition can play in reducing emissions is very limited. Nutrition and its contribution to climate protection should therefore not be over-exaggerated. Agriculture and forestry should be recognised for their efforts in the domain of renewable resources and bioenergy through which other sectors can improve their carbon footprint.



Adapting to climate change, protecting the climate as well as preventing greenhouse gas emissions also constitutes a significant challenge in agriculture and requires support from policy and society. Through Climate Strategy 2.0, German agriculture offers its contribution. The goals and measures put forward reflect the willingness of farmers in Germany to actively be involved in climate protection and to put forward solutions. Farmers offer a dialogue on effective climate protection measures based on sound science.

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