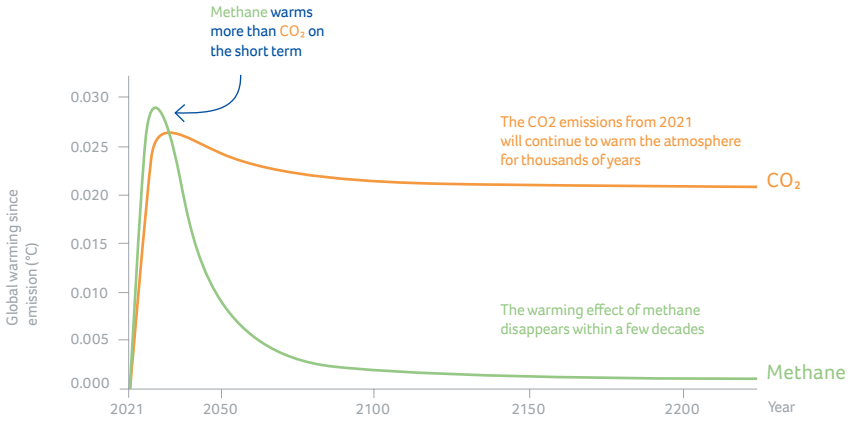
SMP·PSL
Schweizer Milchproduzenten
Producteurs Suisses de Lait
Produttori Svizzeri di Latte
Producents Svizzers da Latg

Methane

in Swiss milk production

swissmilk



The effect that one year's global emissions of methane and CO_2 have on temperature (2021, 0.39 Gt of CH4, 41 Gt of CO_2)[1]

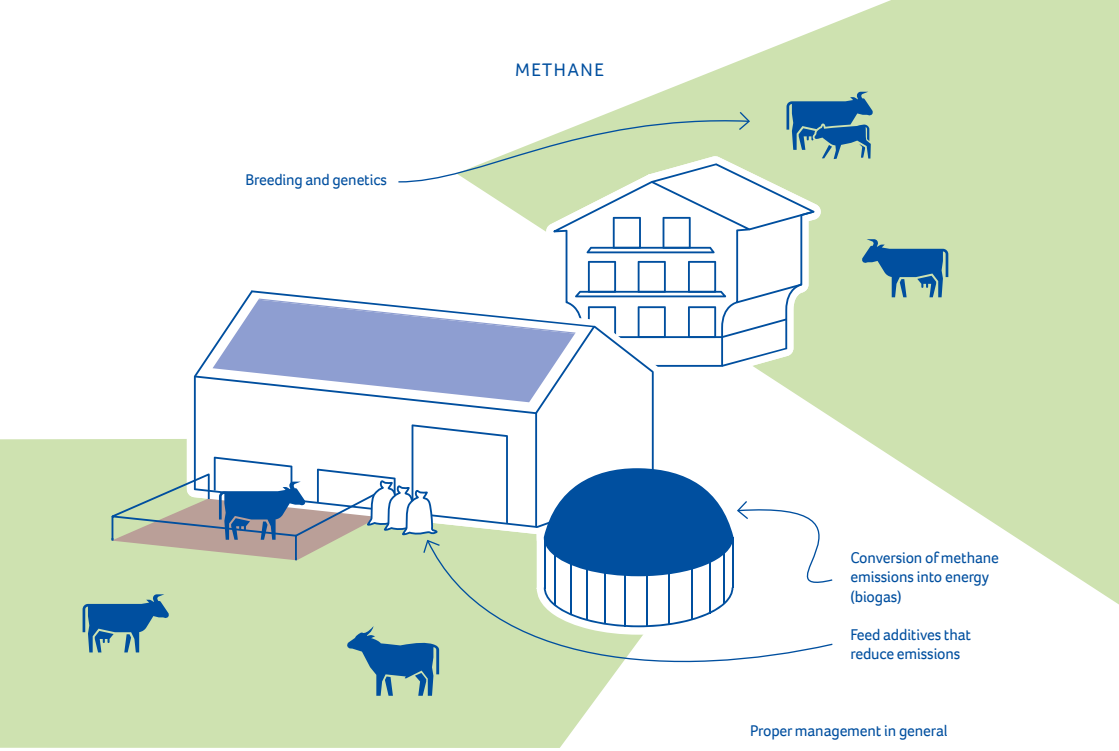
For measures & targets, methane and CO_2 emissions must be **considered separately.**

Worldwide, around 372 million tonnes of methane are emitted each year from human-induced sources. Of these, 36% are from energy production, just under 31% from livestock farming, almost 20% from waste management and 8% from rice cultivation.[2] As some of these sources are practically non-existent in Switzerland, the distribution here is different: In this country, 83% of the 182,000 tonnes of methane emitted in 2021 came from agriculture (livestock farming and farmyard manure management).[3] In general, methane from fossil sources has somewhat more impact on the climate than methane from biogenic sources.[4]

Emissions are converted into 'CO_2 equivalent', so as to allow comparison of different greenhouse gases' impact. Various metrics can be used for this. The most commonly known metric is GWP_{100}. It is used in the Swiss government's greenhouse gas balance and internationally, e.g. in UN reporting. However, GWP_{100} only provides a limited representation of the short-lived nature of methane. For instance, if methane emissions increase, their impact on the climate is underestimated using GWP_{100}, while the impact is overestimated if emissions remain constant. Here is an example of the difference between the conversion metrics GWP100 and GWP*:

If the CO_2 equivalent for 2019 is assessed using GWP*, methane emissions from agriculture would only amount to 0.6 Mt (megatonnes) CO_2eq* in Switzerland's greenhouse gas balance, as opposed to 3.9 Mt CO2eq using GWP_{100}.
This is because methane emissions in Switzerland have decreased slightly over the last 20 years.[5]

Which metric is used depends on the question being asked. Each metric is more or less limited. In the best case, however, no conversion is carried out at all, i.e. CO_2 and methane are considered separately.



There are various ways to **reduce methane emissions on the farm.**

Over the last 30 years, agricultural methane emissions in Switzerland have decreased by 10%, mainly due to the declining dairy cow population[6],[9] Globally though, methane emissions still outweigh the amount of methane currently being removed from the atmosphere.[7] The Global Methane Pledge was launched at the 2021 UN Climate Change Conference in Glasgow, with the aim of reducing global methane emissions by 30% of 2020 levels by the year 2030. Switzerland has also committed to this.[8]

Climate models show that methane emissions from Swiss agriculture must be reduced by around 0.30% per year, in order to prevent them from causing additional warming.[5] This is almost twice as much as the average annual methane reduction in Swiss agriculture over the last 20 years (0.17%). [9]

Generally speaking, significant methane reductions are necessary, if the 1.5°C warming target is to be met. If methane emissions are significantly reduced, Switzerland's agriculture and dairy industry can play an active and even decisive role in achieving the temperature targets over the next two to three decades. Already now, there are various ways of reducing methane emissions on the farm, each of which has advantages and disadvantages. The question of whether emissions are considered per kg of milk or per farm is also decisive.

The active involvement of milk producers must be given due recognition. In order to reach the climate targets, positive contributions are required from all sectors.

Milk producers are actively involved and part of the solution.

List of sources

1 Graph: Adapted from Brunner, C. (2022). Methan-Reduktion kann Klimawandel entscheidend begrenzen. URL: https://gogreen.ch/de/methan-reduktion-kann-klimawandel-entscheidend-begrenzen/ (accessed on 06/03/2024)

2 United Nations Environment Programme / Climate and Clean Air Coalition (2022). Global Methane Assessment: 2030 Baseline Report. Nairobi.

3 Federal Office of the Environment FOEN (2023). Evolution of Switzerland's greenhouse gas emissions since 1990 (XLSX).

4 IPCC (2021). Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge. Page 1017.

5 Neu, U. (2022). Climate effect and CO2 equivalent emissions of short-lived substances. Swiss Academies Communications 17 (5).

6 Federal Office of the Environment FOEN (2023). Kenngrössen zur Entwicklung der Treibhausgasemissionen in der Schweiz (1990-2021). (PDF)

7 Lan X., K.W. Thoning, E.J. Dlugokencky (2024). Trends in globally averaged CH4, N2O, and SF6 determined from NOAA Global Monitoring Laboratory measurements. Version 2024-03.

8 Climate & Clean Air Coalition (2024). Global Methane Pledge. URL: https://www.globalmethanepledge.org/#pledges (accessed on 06/03/2024).

9 Swiss Farmers' Union SFU (2023). Methanemissionen in der Schweizer Landwirtschaft.