China

People's Republic of China

Key facts: Agriculture in China

56%

529 mio ha
used for agriculture
Total area: 942 mio ha

25%

196 mio
employed in agriculture
Total labour force 775 million

China has the largest area of agricultural land on the planet, but only about 0.09 ha of arable land per capita. This is about half the global average of arable land per capita.

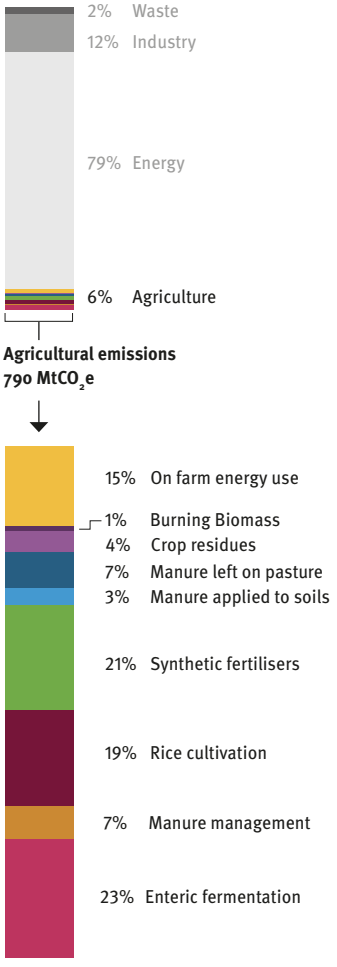
China ranks as a megadiverse country and a significant number of crop species originate from there.

The latest available official information on GHG emissions from the agricultural sector is from 2014. Non-CO_2 emissions from enteric fermentation, manure management, rice cultivation, agricultural soils and field burning of residues amounted to 830 $MtCO_2e$.

Main agricultural products

Maize Rice Pork

Total national emissions
12,872 $MtCO_2e$ (except LULUCF)



Key areas with high mitigation potential

Three mitigation options are highlighted here that are important in the national context due to the share of emissions produced from the activity, the magnitude of possible emissions savings, and feasibility of implementation. These 3 measures form part of a broader set of measures that would be needed to address agricultural emissions in the country, including improved on-farm energy use, improving livestock health, decarbonising the production of synthetic fertiliser, supporting soil carbon sequestration and measures to address the increasing trend in meat consumption.

CH_4 N_2O Improved rice cultivation

Changing management practices related to water use (e.g. alternate wetting and drying) and nutrient input (e.g. fertilizer and straw) to reduce CH_4 and N_2O emissions. Decarbonising on-energy farm use.

N_2O Improving fertiliser/ nutrient management

Reducing the total input of synthetic fertiliser and improving fertiliser use efficiency.

CH_4 N_2O Improved manure management

Improving management of excess manure from large scale livestock operations, for example by improving manure distribution systems.

Key challenges for implementing mitigation measures

- Financial and **capacity constraints of smallholder** farmers as well as the ageing of the rural population, limit opportunities to implement changes in agricultural management practices. Smallholder farmers are responsible for 70% of cultivated land.
- **Lack of agricultural support policies** that support goals related to nutrition health and environment.
- A **very diverse agricultural system** and the large scale at which change needs to be implemented require targeted solutions and collaboration of multiple level of governance for successful transformation.

Recommendations for enhancing mitigation in the agricultural sector

- **Enhancing policy coherence** between production targets, ensuring food security and environmental protection.
- **Improving farm advisory services and monitoring capacities** at the local level for tracking progress towards achieving national targets.
- **Accelerating the reform of agricultural support policy:** Reduce agricultural support that incentivises unsustainable practices and increase support for alternatives that contribute to reducing GHG emissions and environmental pollution.

Sources for data on emissions: FAO (2022): Emissions Totals [Dataset]. https://www.fao.org/faostat/en/#data/GT; Gütschow, J., Günther, A., & Pflüger, M. (2021). The PRIMAP-hist national historical emissions time series v2.3 (1750-2019). https://doi.org/10.5281/zenodo.517515.

Umwelt Bundesamt

This graphic has been developed by Öko-Institut and NewClimate Institute on behalf of the German Environment Agency. It is based on a report on status, potential and challenges for mitigating agricultural GHG emissions for the respective country, available at https://www.umweltbundesamt.de/publikationen/mitigating-agricultural-greenhouse-gas-emissions-in-china. Design: Erik Tuckow, sichtagitation.de