



Food and Climate Country Spotlight: China

The Food Climate Partnership (FCP) Country Spotlight is a collection of summary briefs that provide a systematic overview of food-related activities in different countries and those activities' connection with climate change. Guided by FCP's "double-helix" approach, the Country Spotlights combine data-driven research and policy analysis.

 **Today, China is both the world's largest agricultural producer and its largest agricultural importer.**ⁱ In absolute terms, food system greenhouse gas emissions in China are larger than those in any other country, constituting nearly 5 percent of total global emissions.ⁱⁱ The country feeds a fifth of the world's population with less than 10 percent of its arable land.ⁱⁱⁱ

Agriculture, forestry, and fishing represented 7.3 percent of China's GDP in 2021.^{iv} In 2020, the agricultural sector employed 24 percent of China's workforce (177 million people).^v

 **Food-Related GHG Emissions** China's agri-food system emitted 1.9 billion tons of CO₂eq in 2019, accounting for 14 percent of the country's total GHG emissions that year.^{vi} 58 percent of these emissions came from pre- and post-production activities (e.g., food packaging and transport) and 42 percent came from farm-gate activities (e.g., rice cultivation, enteric fermentation). Land use change made up less than 1 percent of all agri-food GHG emissions (Figure 1).^{vii}

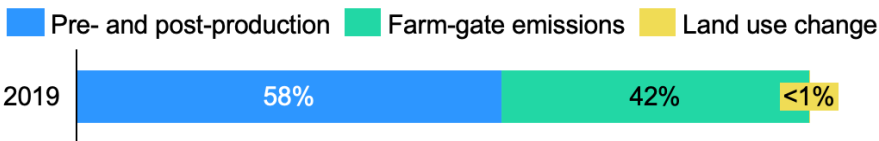


Figure 1. China's Agri-food system emissions in 2019

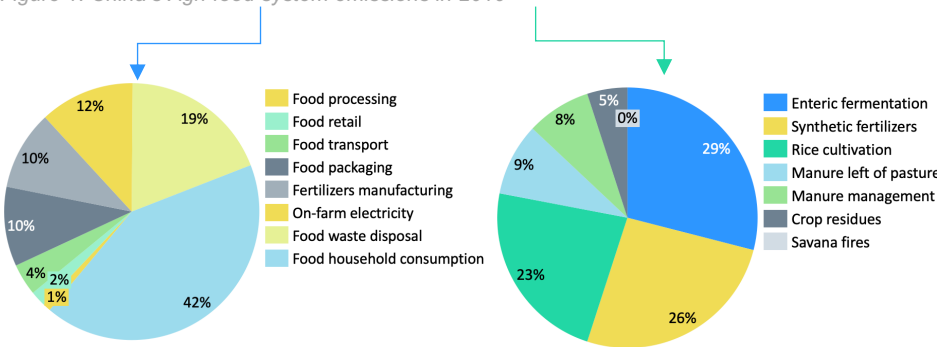



Figure 2 (left). Emission Shares of Food Pre- and Post-Production Activities in China 2019^{viii}

Figure 3 (right). Emission Shares of Agricultural Activities in China (2019)^{ix}

 **Production** China is the world's largest producer of agricultural products. In 2019, China produced an estimated 24 to 32 percent of all agricultural products globally by value.^x In 2020, China produced 38 percent of the world's pork and 13 percent of the world's chicken by volume.^{xi}

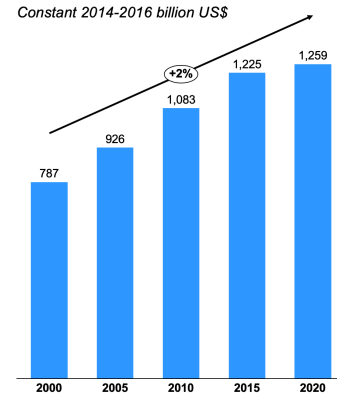


Figure 4 (left): Value of agricultural production in China (2000-2020, Billions of US\$, constant 2014-2016)^{xii}

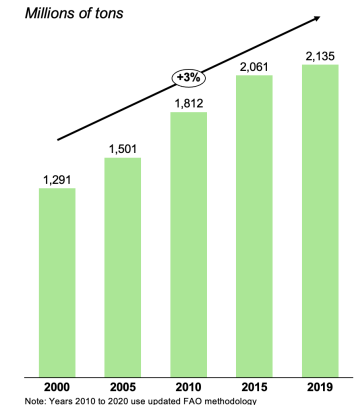


Figure 5 (right): Volume of agricultural products in China (2000-2019, Millions of tons)^{xiii}

 **Consumption** Aggregate grain consumption tripled between 1975 and 2018. Nationally, meat consumption skyrocketed, increasing 14-fold during the same period.^{xiv} In 2019, China consumed 64.4 kilograms of meat per capita, higher than the global average and roughly half of that of the United States.^{xv} By 2021, China was the world's largest meat consumer.^{xvi} China's population has become more prosperous, dietary consumption has increased.

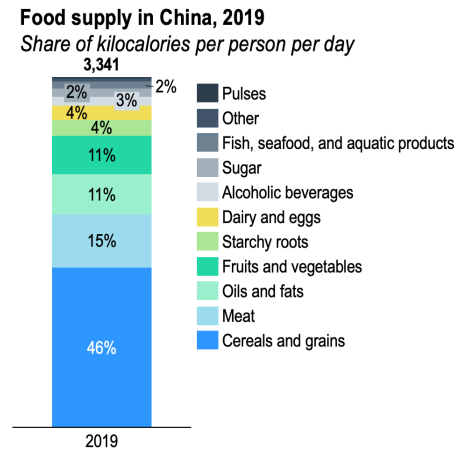


Figure 6. Food supply in China (2019, Share of kilocalories per person per day)^{xvii}



Trade China has been a net food importer in recent years. China was the largest importer of agricultural products between 2017 and 2020.^{xviii} In 2021, China imported 220 billion USD of agricultural products, including 54 billion USD worth of soya beans and 32 billion USD worth of meat products.^{xix} Importing these agricultural products contributes to GHG emissions abroad. One study found that Chinese soy imports were responsible for 6.5 Mt of CO₂ emissions, largely linked to deforestation, in Brazil in 2017.^{xx}

China was the fifth largest exporter of agricultural products between 2015 and 2020.^{xxi} In 2021, China exported 84 billion USD of agricultural goods, including 22 billion USD in aquatic products and 12 billion USD worth of vegetables.^{xxii}



Policy Environment Table 1 summarizes the objectives of a select set of core policy documents related to China's agriculture and climate change goals.

Policy Document	Food system objectives (not exhaustive)
National Food Security and Mid- and Long-term Planning Outline (2008) ^{xxiii}	<ul style="list-style-type: none"> • Protect food production resources • Promote consumption of healthy foods • Reduce food chain waste
Nationally Determined Contributions (2015 & 2021) ^{xxiv}	<ul style="list-style-type: none"> • Develop lower-carbon agriculture and foodservice processes • Improve agricultural climate zoning • Return farmlands to forest and grasslands • Improve food waste and recycling systems
Clean Plate Campaign (2021) ^{xxv}	<ul style="list-style-type: none"> • Enhance public awareness of food waste and food security
14 th Five-Year Plan for Economic and Social Development and Long-range Objectives through the Year of 2035 (2021) ^{xxvi}	<ul style="list-style-type: none"> • Modernize the agricultural sector by 2035 • Accelerate the development of smart agriculture and promote the digital transformation of agricultural production • Build a national food security industry belt • Promote water-saving renovation • Promote the green transformation of agriculture (e.g., strengthen environmental protections for agricultural production areas)
Anti-Food Waste Law (2021) ^{xxvii}	<ul style="list-style-type: none"> • Outline a basic code of conduct for entities including government, enterprises, schools, and the food services to improve food procurement, management, and preparation
Action Plan for Carbon Dioxide Peaking Before 2030 (2021) ^{xxviii}	<ul style="list-style-type: none"> • Reduce food waste in the catering industry • Develop energy-saving, low-carbon greenhouses • Promote the use of energy-saving, eco-friendly cookers, electric agricultural vehicles, and energy-saving, eco-friendly agricultural machinery and fishing boat
Implementation Plan for Emission Reduction and Carbon Sequestration in Agriculture and Rural Areas (2022) ^{xxix}	<ul style="list-style-type: none"> • Ensure all national policies align with carbon peaking and carbon neutrality goals • Identify ten major action areas, most notably: methane reduction in rice fields; fertilizer reduction and efficiency enhancement; carbon emission reduction from livestock and poultry; and sink improvement in fisheries

Table 1: Select Chinese policies related to agriculture and climate change

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