2025 Bergen Summer Research School

FEEDING CITIES SUSTAINABLY

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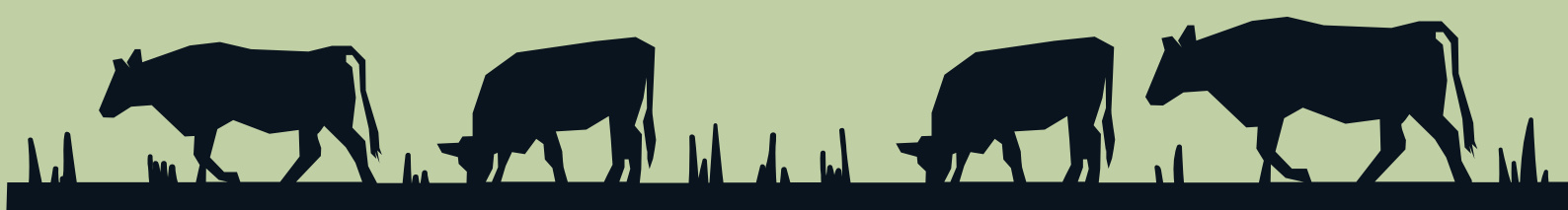


BACKGROUND

Agriculture produces up to 34% of global anthropogenic greenhouse gas (GHG) emissions. Over 50% of these emissions come from animal-based products, which use 80% of agricultural land but provide only 18% of the global calorie intake. Beef has by far the highest climate impact due to the cows' production of methane. [1,2]

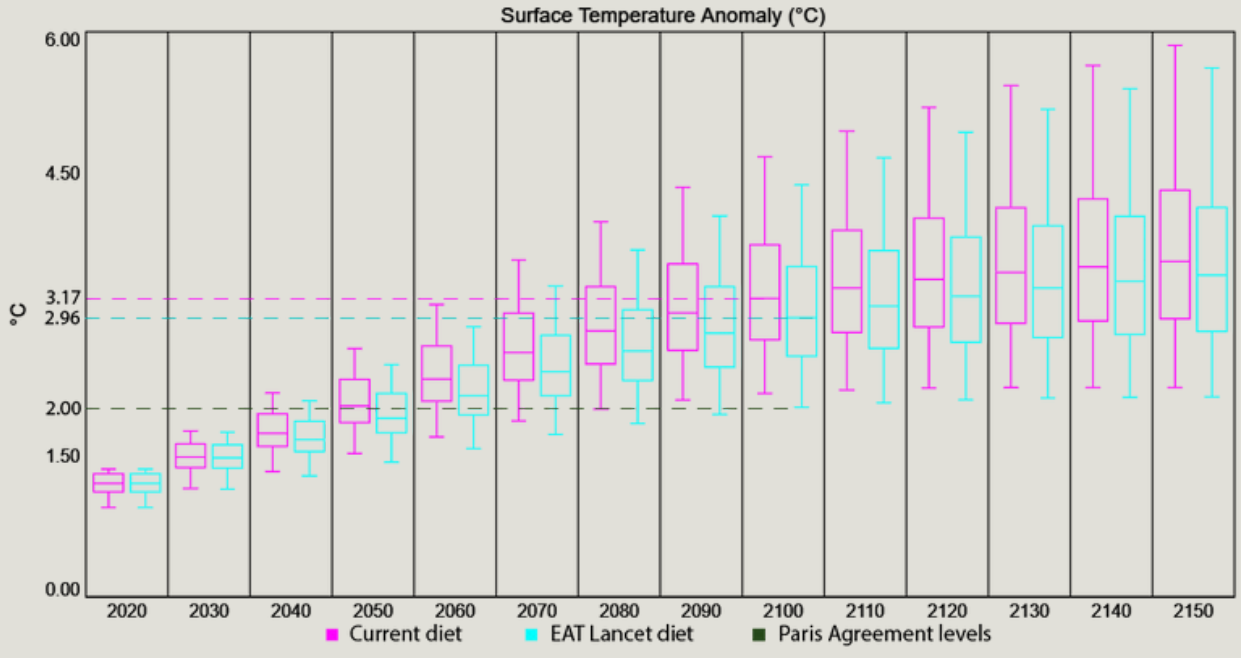
The EAT Lancet commission recommends a healthy reference diet integrating scientific targets for healthy diets and sustainable food systems, considering human and planetary health, and taking into account the nutritional adequacy across different food groups and negative health effects of unsustainable food systems.[3]

According to the FRIDA model[4], implementing the recommended EAT dietary changes reduces global warming in the year 2100 by 0.21°C compared to the business as usual scenario (BAU), with all other factors remaining constant (Table 1):

	Reference scenario	Eat Lancet Recommendation
Animal product share (%)	19	5
Annual caloric intake (kcal)	2833	2500
Start year	NA	2025
Time to implement	NA	15
Global temperature increase 2100 (°C)	3.17	2.96
°C compared to BAU	NA	-0.21

Achieving meat reduction[5]

Annual global meat consumption varies across regions, ranging from 100 kg per capita in North America to 16.5 kg in Africa. Reducing GHG emissions through addressing the overconsumption of meat in high-income countries, especially in urban areas, presents an impactful mitigation strategy.



POLICY PROPOSALS

MARKET POLICIES [6,7]

- Implement taxes on the sale and consumption of high-emission meats. Combining tax-based measures with information messages could result in approximately 21% to 26% reduction of red meat purchases.
- Subsidising more sustainable protein options, making them cheaper and easily accessible to the public, and offering a good substitute for meat to support the transition towards a diversified diet.
- Implementing a carbon tax on speciality meat restaurants (steakhouses, grill restaurants).

NON - MARKET POLICIES [8,9]

- Adding mandatory front-of-package food labelling showing the emissions, providing consumers with a visual of the item's environmental impact.
- Introducing policies to limit the visibility of high-emission meat in supermarkets.
- Redesigning national dietary guidelines to reflect sustainability and health criteria building individual skills in preparing such meals, integrating sustainable dietary education school curriculum, implementing meat-free or low red meat days (veggie days) in public canteens and fostering positive cultural narratives around the recommended diet.

CO-BENEFITS [10,11]

Beyond lowering GHG emissions, reducing consumption of red and processed meat may also offer multiple co-benefits across health, environmental, and economic domains. Apart from contributions to GHG emissions, livestock production is associated with high land and water use, deforestation, and biodiversity loss. Additionally, shifting away from animal-based diets can also bring immediate co-benefits for population health by reducing the risks of chronic diseases including cardiovascular disease, certain cancers, and obesity as well as healthcare costs.

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