Framework for Food

Welcome

This is a reference for the book, Creating a Better Climate Future, by Philip Kent-Hughes. This guide has been developed to help you take action on reducing emissions. This and other guides can be downloaded at: climate-action.org.

Distribution

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Framework for Food

In each country, government at different levels will be responsible for policy and regulation of food production, distribution, retail, and service. The following outlines some basic elements that should be considered while respecting each region's differences, culture, and capacity.

Objectives, plan, and communication
The national, state, or local and city governments should

- Conduct regional and local community engagement to find the best solutions for policy, regulation, and support. This could be in-person, at town halls, or via online submission and should include farmers, indigenous people, transport, food processors, retailers, food service and consumers.
- Decide on an emissions reduction objective of 45% by 2030, then additional objectives for 2040 and 2050. Decide on a 50% reduction in food loss and waste by 2030, as this aligns with the SDG 12.3 objective.
- Develop a plan to meet the objectives, based on local and regional engagement. Communicate and promote the objectives and how they will be achieved through the plan to the community and agriculture industry.
- Provide policy stability so that households, farmers, and business can make a positive change in the future.

Support people and industry
The state and/or national governments should provide

- Subsidies or tax incentives for farmers to implement emissions reduction solutions.

- Public investment, loans, grants, capital subsidies for food transport, processing, or retail infrastructure to reduce food loss and waste.

Government policy

Ideally, government policy should:

- Provide funding for research and information programs to promote sustainable, low-carbon, healthy food lifestyles in the community.
- More than 80% of consumers in the United States occasionally discard food prematurely because of date label confusion with "best before," "display until," or "sell by."[281] Standardize food date labels so the "use-by" date is put most prominently on food so that consumers know about product safety. Also, provide consumer education.
- Legislate requirements on food retailers to donate food to charities instead of throwing it away. In 2016, France enacted legislation that required supermarkets to donate unwanted food to charities.[282] Within two years, 93% of retailers donated food to charity, compared to 33% before the law.[283] City and state governments should adjust regulations to make it easy for retailers to donate food. This should help to reduce hunger and improve access to safe and nutritious food, especially for poor and vulnerable people.

You can't fix what you don't understand

In 2021, the UN Environment Programme reported that only 17 countries had high-quality data about food loss or waste.[284] Not having enough information about the size, nature, and causes of a problem makes is difficult to find solutions. Governments in high-income countries should partner with developing countries in their region to help them

measure food loss and waste. Then they should share the information with farmers, processors, retailers, consumers, and the international community. Each country should gather data using the United Nations Environmental Programme (UNEP) methodology.[285]

Support farmers

Create an integrated framework that supports farmers, the agriculture industry, researchers, retailers, and consumers to collaborate and collectively reduce emissions. The points on the following pages are some solutions that should be considered in a larger framework.

1. Implementation of existing solutions

The IPCC has identified solutions which are expected to have a medium or large impact on reducing emissions:[286]

- Improvements in cropland and livestock management and food productivity
- Reducing deforestation and expansion of agro forestry by planting trees and shrubs in crop and animal farming systems to create environmental, economic, and social benefits
- Increasing soil organic carbon content and adding biochar to soil to improve crop yields, water holding, and nutrient efficiency
- Reducing postharvest losses

2. Information gathering

Government should support the development of easy and streamlined ways that farmers can measure their carbon emissions. Several farming practices, from low tillage (digging or ploughing the soil) to agroforestry, can also increase carbon storage (sequestration) on the land. To encourage farmers to increase the level of carbon storage (sequestration) they also need easy and cost-effective ways to measure improvements.

This information on carbon emissions and storage should be shared with researchers.

3. Research into best practice

Promote research into low-emissions agriculture to help give farmers a range of options they can choose from. Contribute to an open global database to share information on best practice options for various crops in different regions and climates, in multiple languages. High-income countries should partner with developing countries in their region and assist with providing information and support to farmers to improve their crops and resilience while reducing emissions.

4. Support to developing countries

Food can be unnecessarily lost because farmers in developing countries don't have access to proper dry or cold storage for their crops. Storage solutions have been made at a low cost, and all that is needed is assistance from high-income countries to help distribute these. For example, Purdue University developed a system where grain is stored in interlocking plastic bags which keep out pests and keeps grain fresh for months.[287] These solutions will help small-scale producers to increase productivity and income, while reducing hunger and emissions.

5. Product feedback loop

Consumers should provide feedback on low- or zero-emissions food choices to retailers, processing companies, and food service. This will create demand and support farmers who are reducing their emissions.

6. Aiming for 100% utilization

There are a variety of different ways to use the parts of plants that are normally discarded during and after harvest.[288] This should be further researched to get as close to 100% utilization as possible and to share this knowledge. For example, the sugarcane stalk that's left after processing can be used in some packaging to replace plastic.[289] In addition, leftover organic material such as crop residues, manure, or weeds can be heated to 500°C to make bio-charcoal (also called biochar).[290] Biochar increases soil's ability to retain water, nutrients, and fertilizer, while also reducing the risk of soil erosion.[291] This means farmers can increase productivity while reducing fertilizers and emissions.[292]

7. Support farmers with the uptake of new technology

The government can support farms with grants, subsidies, or other types of tax credits to buy new technology, such as

- Solar panels to generate electricity and reduce running costs of the farm. Excess electricity can also be sold to the grid to improve annual farm income, especially in times of drought, floods, or fires.
- Zero-emissions electric tractors and other vehicles that can also help farmers save on fuel costs. Currently, these can manage jobs such as mowing and utility work that don't require heavy loads.[293] More research and development should be supported to make electric equipment that can handle more farming work.

We can employ many other approaches to support farmers and reduce emissions—this is just the beginning.

8. 50% less food loss objective by 2030

Farmers, transportation companies, food manufacturers, retailers, and consumers should work cooperatively to reduce food loss. For all participants, this could involve gathering information about food lost, then analyzing the reasons for the food loss and identifying opportunities for reductions.

Aerial View of a Solar Array on a Farm Growing Fruit and Vegetables

Source: baranozdemir on iStock

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