NEWSLETTER

Smart & Net-Zero Project

The Smart Net-Zero (SNZ) project team under the Food and Fertilizer Technology Center (FFTC) for the Asian and Pacific Region regularly collects and shares information related to sustainable agrifood systems and climate-smart agriculture, including research, news, policy, data and event updates around the world on the project website.

Overview

Mapping the True Carbon Cost of Agrifood Systems

Agrifood production remains a cornerstone of the agrifood system. While farm-level emissions have long been the focus, new evidence shows that pre- and post-production stages—like processing, transport, and waste—now generate over one-third of global emissions. This shift highlights opportunities to strengthen data and drive system-wide climate solutions.

In **Research**, the featured review urges granular, region-specific accounting, stressing that climate policies must go beyond farms to address rising emissions from pre- and post-production. Four studies provide actionable insights: one maps the environmental impacts of ultra-processed foods across land use, biodiversity, packaging, and water; another reviews smart packaging technologies for improved traceability and reduced spoilage; a third applies a hybrid model to assess sustainability practices in cold chains; and the last quantifies food loss and waste as contributing to half of all agrifood system GHG emissions.

The **News** spotlights Colombia's climate-smart coffee sector and Taiwan's leadership in traceable, low-carbon food systems. In **Policy**, frameworks from IFPRI and the UK aim to decarbonize supply chains from sourcing to logistics. **Open Data** features tools like Foodsteps for life cycle-based carbon labeling, along with platforms such as SFS Innovation and SAI that support sustainability across the value chain.

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RESEARCH

01 THEME: GHG Emission Reduction

Pre- and post-production processes increasingly dominate greenhouse gas emissions from agri-food systems

April 14, 2022 | Earth System Science Data | Source |

Introduction: Traditional assessments have underestimated global GHG emissions from agrifood systems by focusing mainly on farm-level production and land-use change. An international research team led by the Food and Agriculture Organization (FAO), in collaboration with Columbia University (USA), the Potsdam Institute for Climate Impact Research (Germany), and the International Energy Agency (France), presents results from the FAOSTAT database covering emissions across 196 countries and 40 territories from 1990 to 2019 in both IPCC (Intergovernmental Panel on Climate Change) and FAO classifications. The study highlights emissions from pre- and post-production processes such as fertilizer manufacturing, food processing, transport, packaging, retail, consumption, and waste disposal.

Figure | Mapping of emissions across agri-food systems. *Left:* IPCC sectors and processes used in national GHG emissions inventories. *Right:* food and agriculture sectors and categories aligned to FAO's definitions.

Key findings: In 2019, agrifood systems accounted for 31% of total anthropogenic emissions (16.5 Gt CO_2 eq.). Emissions from pre- and post-production activities reached 5.8 Gt CO_2 eq., doubling since 1990 and surpassing farm-gate and land-use emissions in many regions, especially developed countries. Major contributors included household consumption, waste disposal, and retail. These processes were the largest source of CO_2 (3.9 Gt), while farm-gate activities dominated methane (140 Mt CH_4) and nitrous oxide (7.8 Mt N_2O) emissions. Notably, fluorinated gases (F-gases)—primarily from refrigerants—rose from near zero in 1990 to over 25% of global emissions by 2019.

Pre- and post-production emissions are now the leading agrifood emission source in China (1.1 Gt CO_2 eq.), the USA (0.7 Gt), and the EU-27 (0.6 Gt). In developing countries, these emissions more than doubled between 1990 and 2019, overtaking land-use change as the 2nd largest source—reflecting rising industrialization and urbanization. Regionally, household consumption was the main driver in Asia and Africa; food retail dominated in Europe, Oceania, North America, and Russia; food waste disposal was prominent in parts of Latin America and Southeast Asia; and on-farm energy use was significant in India.

Findings highlight the need for climate policies to go beyond farm and land-use sectors and address the entire food supply chain. Future research should prioritize improving emission factors and activity data, especially in overlooked regions, to support effective mitigation strategies.

02 THEME: GHG Emission Reduction; Others

A conceptual framework for understanding the environmental impacts of ultra-processed foods and implications for sustainable food systems

September 25, 2022 | Journal of Cleaner Production | Source |

Introduction: Ultra-processed foods (UPFs) exacerbate the global food system's failure by driving environmental harm, undermining nutrition, disrupting social food practices, and deepening economic inequalities. Addressing this gap, researchers from Deakin University and CSIRO in Australia developed a conceptual framework mapping the environmental impacts of UPFs across all stages of the supply chain, while assessing how classification terms affect outcomes. Through a narrative review and systematic search, they analyzed 52 studies (2000–2021) covering indicators such as land use, GHG emissions, water use, and waste.

Key findings: UPFs are responsible for substantial environmental impacts, accounting for up to 39% of diet-related energy use, 36–45% of biodiversity loss, and around 1/3 of GHG emissions, land use, and food waste, as well as up to a quarter of water use in high-income countries. These impacts vary by country context, food classification terms, and the inclusion of processed meats. **Sweets, snacks, and drinks**—a major UPF category—consume the highest share of phosphorus-based fertilizers, intensifying eutrophication. **Meat-based UPFs** are key drivers of GHG emissions and land degradation, while **plant-based UPFs** contribute to biodiversity loss and eutrophication—particularly those reliant on **palm oil, soy, and cocoa**, which are linked to deforestation and species extinction. UPFs also generate substantial **plastic packaging waste** and contribute to food waste at both household and retail levels, especially from bakery and ready-made products.

The review underscores the avoidable nature of these impacts and calls for consistent food classification, more comprehensive life cycle assessments, integration of environmental indicators, and region-specific data to guide policy. It also recommends a suite of interventions, including agricultural policies to support sustainable practices, trade reforms to localize fresh food supply chains, taxes to disincentivize UPFs, and clearer front-of-pack labels and dietary guidelines that reflect both health and environmental priorities.
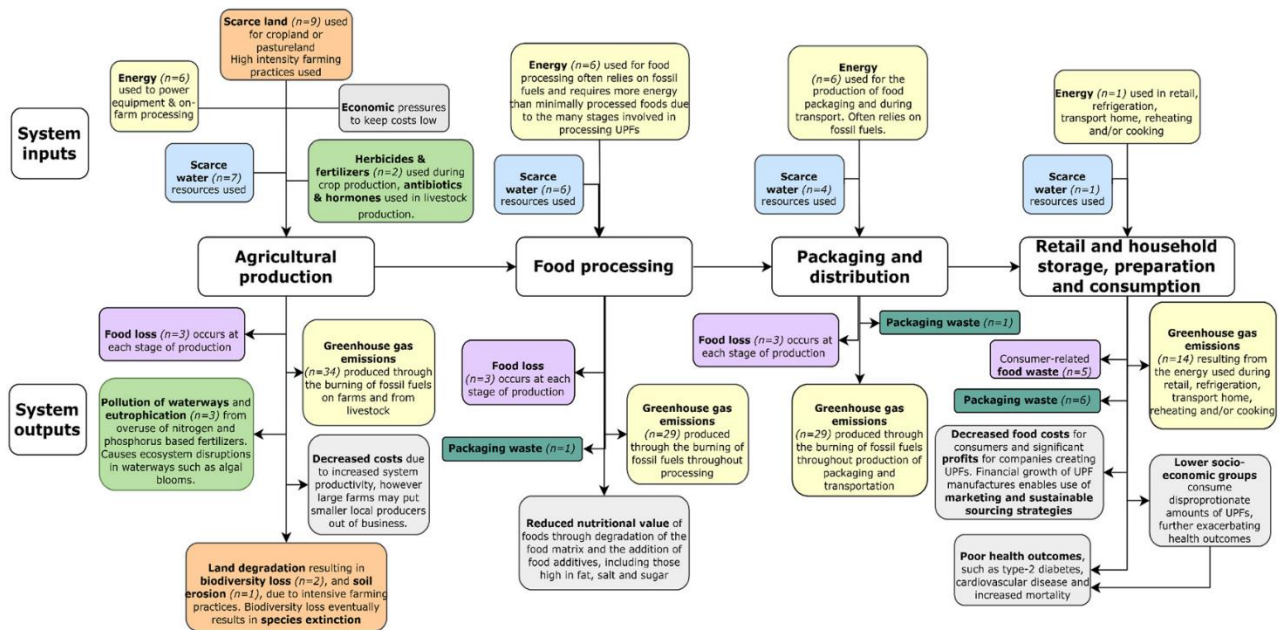
Figure | A summary of the environmental impacts of UPFs throughout the food system, where n indicates number of studies identifying each respective impact. This figure was created using draw.io.

03 THEME: ICT in Agrifood Sustainability

Innovative processes in smart packaging. A systematic review

March 13, 2022 | Journal of the Science of Food and Agriculture | <u>Source</u> |

Introduction: Food loss and waste are major environmental concerns, contributing to 29% of global GHG emissions, with especially high levels at the consumer stage. To address this, researchers from the University of Beira Interior and Center for Mechanical and Aerospace Science and Technologies (C-MAST) in Portugal conducted a PRISMA-based review of 108 studies on smart packaging across agro-industrial sectors. While meat and general topics dominated the literature, the review identified notable research gaps in dairy, fruits and vegetables, and particularly bakery and pastry—sectors needing targeted innovation due to unique commercial or technical constraints.

Key findings: Unlike active packaging, which directly interacts with food to extend its shelf life, smart packaging focuses on monitoring and communicating product conditions without altering the product itself. The study identified **Time Temperature Indicators (TTIs)**, **freshness** indicators (monitoring microbial metabolites), **gas** indicators, **sensors** (physical, chemical, and biosensors), and **data carriers** (QR codes and RFID tags) as effective smart packaging

Figure | Classification of smart packaging technologies.

technologies. **TTIs** were found to be especially cost-effective and broadly applicable, offering a clear indication of temperature history and food quality. Meanwhile, **QR codes and RFID tags** demonstrated strong potential for enhancing traceability, preventing fraud, optimizing logistics, and engaging consumers through features like augmented reality.
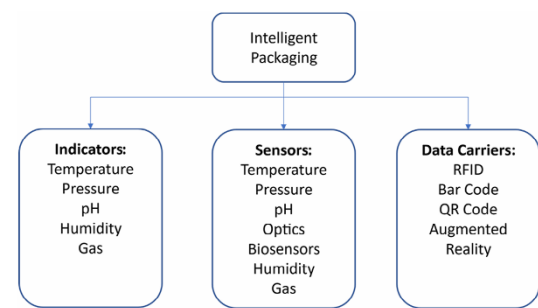
The review identified challenges such as sensor affordability, complex RFID integration, and the need for progress in printed electronics and biosensor miniaturization. It highlighted the value of synergistic technologies—like RFID with humidity, pH, and temperature sensors—for more effective monitoring. Chipless RFID emerged as a promising, low-cost alternative, though further advances in materials and printing are needed. Future research should address these gaps to improve the scalability and effectiveness of smart packaging for sustainable agrifood systems.
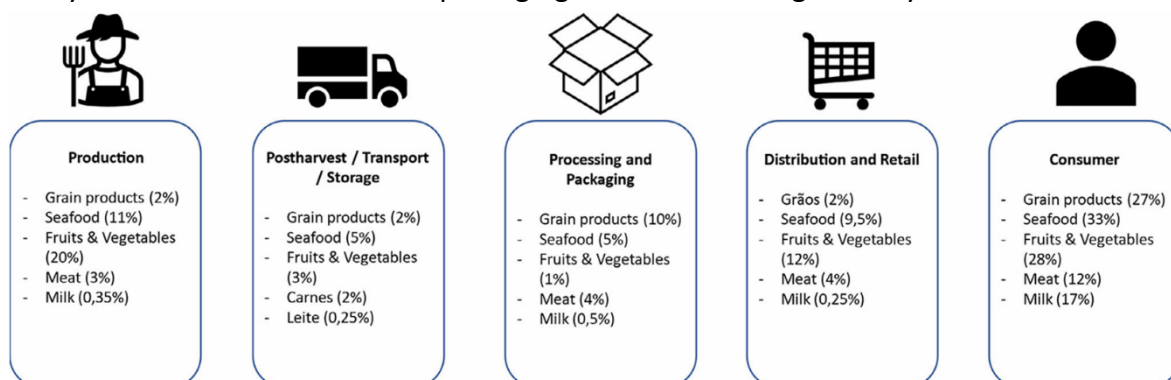

Figure | Food loss and waste in various stages of the food supply chain. Adapted from Chen et al.

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04 THEME: GHG Emission Reduction; ICT in Agrifood Sustainability

A hybrid sustainability performance measurement approach for fresh food cold supply chains

April 20, 2023 | Journal of Cleaner Production | Source |

Introduction: Fresh food cold supply chains (CSCs) in developing countries face major sustainability issues, including food waste, high energy use, and weak economic viability. Addressing this gap, researchers from the University of Padova (Italy) and Guangzhou University (China) investigated how good practices from developed nations could improve CSC sustainability in China. The study adopts the Triple Bottom Line (TBL) framework, evaluating performance across economic, environmental, and social dimensions. It employs a hybrid analytical hierarchy process (AHP) and fuzzy TOPSIS method, incorporating expert input from China's fresh food CSC sector.

Key findings: Eight good practices from developed countries were assessed for their relevance to China's CSC context. **Employee training** emerged as the most impactful, enhancing operational skills, reducing food loss, and improving regulatory compliance. **RFID and WSN technologies** ranked second for enabling real-time condition monitoring, which helps reduce waste. In contrast, surplus food donations had the least impact, suggesting limited systemic influence despite popular perceptions. Sensitivity analyses supported these rankings across varying performance-weighting scenarios, reinforcing the value of investing in workforce development and digital monitoring tools. Among the TBL dimensions, economic performance was prioritized highest, followed by environmental and then social (Ec > En > So). This reflects China's emphasis on cost efficiency and energy concerns, as CSCs are responsible for around 30% of global energy consumption—much of it from fossil fuels. Future research should validate these findings empirically and explore practical strategies for implementing these good practices in China's fresh food CSC sector.
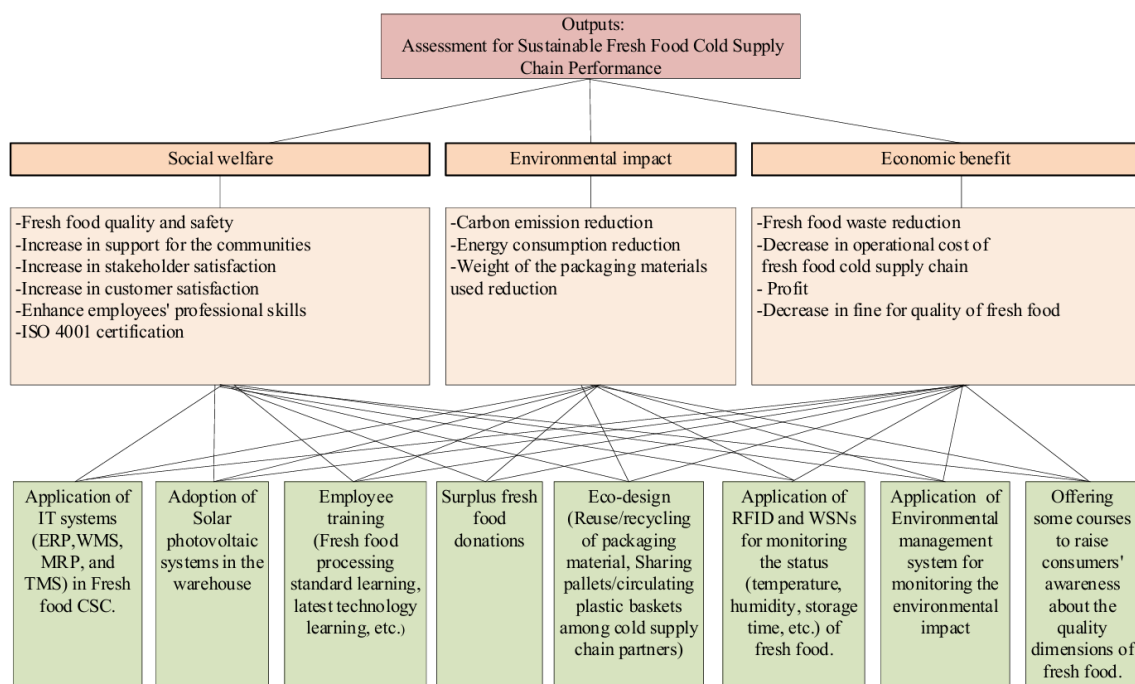

Figure | A conceptual sustainability performance structure.

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05 THEME: GHG Emission Reduction

Cradle-to-grave emissions from food loss and waste represent half of total greenhouse gas emissions from food systems

March 13, 2023 | Nature Food | Source |

Introduction: Food loss and waste (FLW) are major contributors to global GHG emissions, yet their full impact across the food system has been underexplored. A research team led by Nanjing Forestry University in China, alongside partner institutions in Singapore, conducted a cradle-to-grave analysis quantifying both supply-embodied ($\sum FLWC^S$) and waste-management-related ($\sum FLWC^T$) FLW emissions. Using material balance modeling and life cycle assessment, the study also evaluated the potential of various policy and technological interventions to reduce emissions.

Key findings: In 2017, global FLW accounted for 9.3 Gt CO_2e—half of total food system emissions. Emissions from meat and animal products dominated supply chain emissions (73.4%), particularly in regions with high meat consumption such as North America, Europe, and Oceania, where meat-related FLW accounted for over 85% of supply-embodied emissions. Meanwhile, cereals and pulses were the primary drivers of waste-management emissions due to their high carbohydrate content, especially in Sub-Saharan Africa (75.1%), Central and Southern Asia (69.3%), and Eastern and Southeastern Asia (67.5%). These patterns underscore the influence of regional dietary preferences on emissions and the importance of tailored mitigation strategies. Notably, the consumer stage alone contributed 35.5% of supply-embodied emissions—more than wholesale, retail, and traders combined—highlighting a critical area for behavioral and policy intervention.

Waste-management emissions showed a negative correlation with GDP per capita in developed regions, suggesting that economic development often enables the adoption of more environmentally friendly waste treatment technologies. Conversely, supply-embodied and food logistics emissions correlated positively with GDP, driven by the extended and complex supply chains associated with international food trade, as well as more intricate transportation and processing infrastructure. Halving FLW generation and meat consumption could reduce emissions by 25% and 23%, respectively. If combined, they could cut emissions by 42.8%, despite a potential trade-off of 2.4% increase in waste-related emissions due to shifts toward plant-based foods. Enhancing anaerobic digestion and composting could further reduce waste emissions by 14%. The study highlights the need for region-specific, integrated strategies to optimize mitigation benefits.
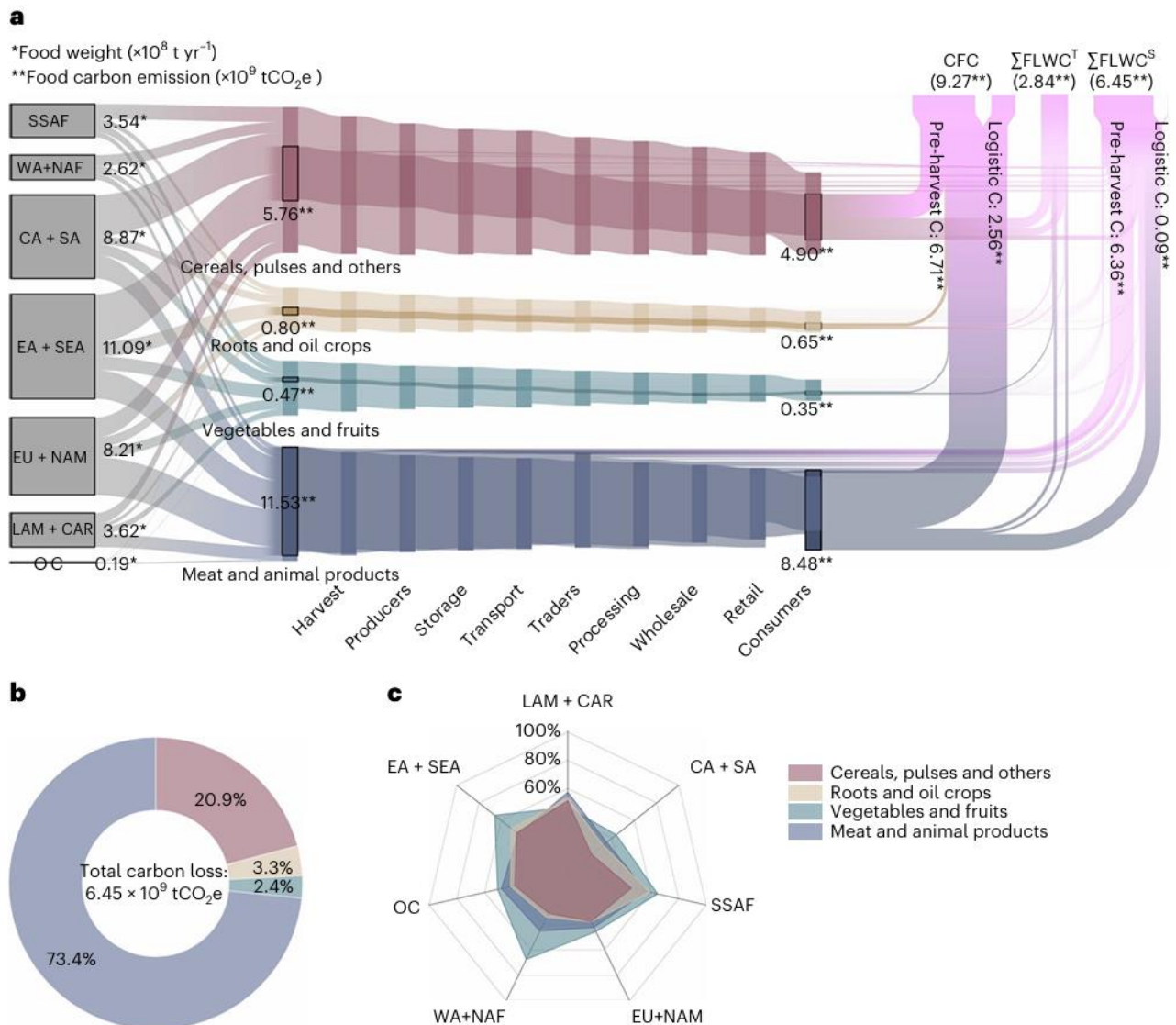
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Figure | Food and GHG flows of the global food system in 2017. a, Food and GHG flows among seven geographical regions and four food categories. b, Supply embodied FLW GHG emissions from food categories. c, The proportions (%) of FLW in geographical regions. The food supply data were obtained from Food and Agriculture Organization (FAO) Statistical Databases (FAOSTAT); the geographical regions are classified under the Standard Country or Area Codes for Statistical Use (known as M49) of the United Nations Statistics Division, which include (1) Sub-Saharan Africa (SSAF) (n = 39 countries), (2) Western Asia and Northern Africa (WA + NAF) (n = 19), (3) Central Asia and Southern Asia (CA + SA) (n = 13), (4) Eastern Asia and South-eastern Asia (EA + SEA) (n = 17), (5) Europe and Northern America (EU + NAM) (n = 41), (6) Latin America and the Caribbean (LAM + CAR) (n = 33), and (7) Oceania (OC) (n = 2), with their abbreviations shown in the first column in a. Logistic C, GHG emissions from all the logistic activities incurred in the eight post-farming stages from harvest to retail, under the domains of CFC and $\sum FLWC^S$; pre-harvest C, GHG emissions from crop cultivation or livestock breeding stages.

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NEWS

01 **THEME:** Policy Incentives, Financing, Pricing

FAO and UNDP launch joint mission to drive integrated rural transformation through agriculture and clean energy

June 18, 2025 | Food and Agriculture Organization (FAO) |

FAO and UNDP have initiated a joint mission in Angola to advance climate-resilient rural development through integrated agriculture and clean energy. Central to this effort are Rural Transformation Centres (RTCs), co-developed with the Angolan government, which combine climate-smart farming, renewable energy, and local value chains. The mission aims to assess local needs, map opportunities, and empower women and youth while enhancing productivity and livelihoods. This initiative supports Angola's national goals and the 2030 Agenda for Sustainable Development.

02 **THEME:** GHG Emission Reduction; Carbon Sequestration; Policy Incentives, Financing, Pricing

Colombia's sustainable coffee sector and its lessons for climate solutions

June 6, 2025 | World Economic Forum (WEF) |

Facing rising temperatures and shrinking farmland, Colombia's coffee industry demonstrates how agriculture can adapt through innovation and policy support. As the world's third-largest coffee producer, Colombia risks losing up to 50% of suitable coffee-growing areas by 2050. In response, farmers adopt shade-grown practices, preserve native trees, and implement climate-smart agroforestry systems that regulate temperature and support biodiversity. Scientific investments have yielded heat- and disease-resistant coffee varieties, while eco-friendly technologies like the Ecomill® drastically reduce water use and pollution. Studies show Colombian coffee farms absorb over five times more carbon than they emit. This progress is backed by strong government leadership, including the 2021 Coffee, Forest & Climate Agreement, which unites public agencies, the private sector, and communities to promote sustainable coffee landscapes. Together with the 2023 National Agroecology Policy, Colombia offers a scalable model for climate-resilient agriculture in other vulnerable regions.

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03 **THEME:** Others

Children born now may live in a world where the US can only produce half as much of its key food crops

June 18, 2025 | CNN Climate |

A major study published in *Nature* warns that climate change could slash U.S. production of key crops—maize, soybeans, and wheat—by up to 50% by 2100. Drawing from eight years of data across 12,000 regions, the study shows every 1°C of global warming may cut global food output by 120 calories per person daily. Despite some on-farm adaptations, such as switching crop varieties and irrigation adjustments, these efforts are insufficient. Wealthy nations like the U.S. may be hit hardest due to rigid agricultural systems, especially in the Midwest Corn Belt. The study also finds that rising temperatures will increase food prices, reduce access to nutrition, and even affect traditionally resilient crops like cassava in Africa. Researchers urge urgent transformation of energy systems and agricultural practices to avoid deepening the global food crisis.

04 **THEME:** Policy Incentives, Financing, Pricing

Exploring climate change impacts on food security in Maldives

May 28, 2025 | IISD SDG Knowledge Hub |

The Maldives faces severe food security challenges driven by rising temperatures, extreme weather, and global disruptions. With over 90% of its food imported, the country is highly susceptible to supply chain shocks, as starkly demonstrated during the COVID-19 pandemic. Although agriculture contributes only 1.2% to GDP, it remains essential for local livelihoods. To strengthen resilience, the government is implementing staple food subsidies, decentralization reforms, and climate-adaptive innovations such as hydroponics, saline-tolerant crops, and solar-powered desalination. Combining traditional knowledge with modern technology further supports local adaptation. Meanwhile, fishing continues to be a key economic pillar alongside tourism. Global cooperation is vital to building resilient food systems. The Maldives offers a compelling example of how small island states can drive food system transformation through innovation, community action, and international collaboration.

05 **THEME:** Policy Incentives, Financing, Pricing; Others

Taiwan's AMOT hosts 10th Star Traceable Restaurant Awards, reinforcing SDG commitments

June 18, 2025 | Storm.mg (In Chinese) |

The 10th Star-Rated Traceable Restaurant Awards, hosted by the Agricultural Multi-disciplinary Organization of Taiwan (AMOT), celebrated 20 top-rated restaurants for promoting traceable, low-carbon, and sustainable food systems. Supported by Ministry of Agriculture (MOA), AMOT has guided over 1,600 restaurants in adopting traceable and organic ingredients since 2014. This initiative aligns with 5 UN SDGs, including climate action and sustainable consumption. The event highlighted AMOT's efforts in ESG integration and international engagement, including presentations at COP28 and the 2024 Organic World Congress (OWC). AMOT continues to foster cross-sector collaboration, showcasing Taiwan's leadership in sustainable agri-food innovation.

06 **THEME:** GHG Emission Reduction

Taiwan hosts ACSAC11, showcasing leadership in net-zero agriculture and food security

May 26, 2025 | CTEE (In Chinese) |

The 2025 Asian Crop Science Association Conference 11 (2025 ACSAC11), held in Taiwan after 26 years, gathered over 400 experts from 21 countries to address climate challenges through crop science and agri-tech innovation. With themes of net-zero production, food security, and sustainability, the event featured cutting-edge research on AI-driven breeding, low-carbon farming, and biotechnology. Keynote speakers from the Asia-Pacific shared solutions on climate resilience, CRISPR crop editing, and sustainable rice systems. Youth forums and exhibitions further highlighted Taiwan's leadership in agri-tech and international cooperation for sustainable food systems.

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POLICY

01 THEME: Climate Smart Agriculture; Supply Chain

Global food policy report 2025: Food policy: Lessons and priorities for a changing world

International Food Policy Research Institute (IFPRI) | Source | Report |
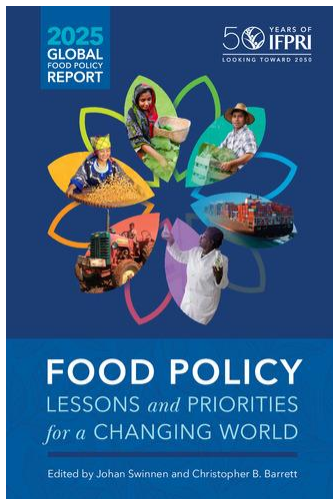
The 2025 Report marks IFPRI's 50th anniversary, reflecting on five decades of global food policy evolution—from the Green Revolution's productivity advances to today's complex issues such as climate change, inequality, persistent hunger, and technological innovation.

It identifies **six priority areas for future research and action**: 1) enhancing resilience and inclusion, particularly in conflict-prone areas; 2) improving nutrition and food environments; 3) responsibly harnessing digital innovations and AI; 4) engaging the private sector for sustainable investments; 5) realigning public agricultural expenditures with sustainability and nutrition goals; and 6) promoting interdisciplinary approaches linking agriculture, health, environment, and trade. Key sections of the report include:

I.   **Pathways to Progress** – Chronicles IFPRI's evolution in food policy research, showing how research has guided policy and improved livelihoods.
II. **Sustainability and Food Systems** – Examines climate impacts, environmental health, resource tenure, and the need for resilient, inclusive supply chains.
III. **Supporting Farmers** – Emphasizes productivity gains through modern extension services, improved seed systems, and data-driven agricultural insurance.
IV. **Transforming Lives and Livelihoods** – Explores the role of social protection, nutrition strategies, and gender equity in strengthening livelihoods.
V.   **Effecting Change** – Focuses on governance, trade, innovation, and financing as levers for food systems transformation.
VI. **Regional Developments and Priorities** – Highlights diverse regional experiences and the need for context-specific, climate-resilient policies.

The report underscores the importance of strengthening local research capacity and fostering evidence-based policymaking, particularly in low- and middle-income countries. Serving as both a retrospective and a strategic roadmap, it calls on stakeholders to collaborate in building resilient, equitable, and sustainable food systems for 2050 and beyond.

Achieving Net Zero: A Handbook for the Food and Drink Sector

The Food and Drink Federation (FDF) | Source | Handbook |

This Handbook provides practical guidance for food and drink manufacturers—especially those in early stages of climate strategy development—to reduce emissions across the value chain. It outlines actionable steps from farm to fork, including energy efficiency, sourcing renewable electricity, sustainable refrigerants, ingredient procurement, packaging, and logistics. While manufacturers directly account for only a small share of sectoral emissions, they can influence the broader system through supplier engagement and product reformulation.

The Handbook also highlights that ingredient sourcing, particularly animal products and deforestation-linked imports, is the largest emissions source. It recommends measuring ingredient-level emissions and prioritizing lower-carbon alternatives. It also encourages companies to align with consumer demand for sustainable products through carbon footprint labeling. To achieve Net Zero, the report stresses the importance of leadership, collaboration, and credible carbon offsetting—used only for unavoidable emissions and verified to high standards. The Handbook serves as a practical tool to support sector-wide climate action, aligning business operations with global targets to limit warming to 1.5°C.

SUMMARY OF ACTIONS

Carbon offsets
Carbon offsets can compensate for unavoidable emissions in the value chain, once all feasible emissions reduction actions have been implemented. Companies should only use high-quality offsets certified by an independent scheme.

fdf

Ingredients & imports*
- Understand your ingredient emissions
- Procure lower carbon ingredients
- Reformulate products to reduce emissions

Packaging
- Assign internal responsibility for packaging emissions
- Set company policy on packaging sustainability
- Engage packaging suppliers to find low carbon options

Manufacturing
- Improve energy efficiency
- Decarbonise electricity
- Decarbonise process heat
- Shift to sustainable refrigerants

Distribution & Storage
- Embed climate performance into logistics services
- Shift to electric vehicles for light goods vehicles
- Optimise your HGVs

Customers & Consumers
- Understand customer expectations on climate
- Capitalise on growing demand for lower carbon products
- Engage consumers on climate issues and waste reduction

Food and Drink **Net Zero Handbook**   *This category includes emissions related to production of UK ingredients (agricultural emissions), as well as emissions embedded in imported ingredients, animal feed and finished goods (production, packaging and transport to the UK).   Page 68
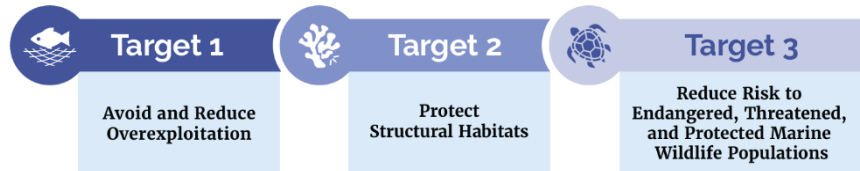
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03 THEME: Sustainable Production

SBTN launches first ocean science-based targets for seafood

Science Based Targets Network (SBTN) | Source | Technical Guidance |

Developed by the SBTN Ocean Hub—co-led by WWF and Conservation International— these targets provide businesses with actionable,

science-based methods to reduce their environmental impact on oceans, marking a major step toward comprehensive corporate action on nature. The framework outlines three targets: **(1) Avoid and Reduce Overexploitation, (2) Protect Structural Habitats, and (3) Reduce Risks to Endangered, Threatened, and Protected (ETP) Marine Wildlife Populations.** These targets address key drivers of marine degradation—overfishing, habitat destruction, and biodiversity loss—through standardized, science-aligned approaches that support regulatory compliance and stakeholder engagement. Informed by extensive pilot testing and public consultation, the targets apply across seafood supply chains, including wild capture fisheries and aquaculture. The guidance provides detailed criteria and indicators for measuring progress and emphasizes transparent disclosure to enhance accountability and credibility. Companies are encouraged to adopt the targets, collaborate at seascape or jurisdictional levels to restore marine ecosystems, and integrate ocean targets with land and freshwater frameworks for a unified, nature-positive approach. By adopting these targets, businesses can build resilient supply chains, demonstrate sustainability leadership, and contribute to global biodiversity goals such as the Kunming-Montreal Global Biodiversity Framework (GBF).

03 THEME: Sustainable Production

OPEN DATA

01 THEME: Agrifood system

Sustainable Food System Innovation Platform

Funded by the European Union | Source |

Sustainable Food System Innovation Platform (SFS Innovation Platform) is a free, open-access online hub developed through the collaboration of Horizon 2020 and Horizon Europe projects, including SMARTCHAIN, CO-FRESH, FAIRCHAIN, EU4ADVICE, COREnet, WATSON, and WASTELESS. Launched in 2022, the platform preserves and promotes project outcomes by curating six key inventories—case studies, initiatives, innovations, practice abstracts, publications, and web links—along with e-learning resources and community networking tools. Designed for a wide range of users—including consumers, farmers and cooperatives, industry and retailers, policymakers, and technology providers—the platform supports sustainable food systems, short value chains, and transparency-enhancing innovations. While all users can access content, registered users may also upload materials, rate, and comment on entries.By consolidating multi-actor innovations and fostering peer learning, the SFS Innovation Platform provides a robust framework for long-term knowledge mobilization in climate-smart agrifood systems.

02 THEME: Agrifood system; Climate Smart and Net-Zero Toolkit

Sustainable Agriculture Initiative Platform (SAI Platform)

SAI Platform | Source |

SAI Platform is a global, non-profit consortium of over 190 agrifood companies, cooperatives, NGOs, and standards bodies collaborating in a pre-competitive space to drive sustainable agriculture. Founded in 2002 by Danone, Nestlé, and Unilever, the platform empowers members with practical tools and knowledge while catalysing on-farm innovation to build resilient, climate-smart food systems. Users gain access to robust sustainability frameworks, including the Farm Sustainability Assessment (FSA) for on-farm performance validation, the European Roundtable for Beef Sustainability (ERBS), the Sustainable Dairy Partnership (sdp) for continuous dairy supply chain improvement, and the Regenerating Together Programme to enhance soil health, biodiversity, water stewardship, and farmer livelihoods. SAI Platform supports hands-on learning through working groups, regional projects, webinars, field trips, training programs, and annual conferences featuring industry leaders and real-world case studies. Its Resource Centre and member portal provide an extensive library of reports, publications, news, and guides, enabling users to benchmark progress and align with sustainability frameworks.

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European Roundtable for Beef Sustainability

Bringing stakeholders together to accelerate the sustainability of beef production.

Farm Sustainability Assessment

Assess, improve, and validate on-farm sustainability in your supply chain.

Regenerating Together Programme

Building the regenerative capacity of agriculture through a global, farmer-centred, industry-led initiative.

Sustainable Dairy Partnership

Industry collaboration for the continuous improvement of sustainability in the dairy sector.

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03 THEME: GHG Emission Inventory; Climate Smart and Net-Zero Toolkit

Foodsteps

Foodsteps | Source |

Foodsteps is a food sustainability platform designed for food service operators and manufacturers seeking trustworthy, data-driven insights to measure, reduce, and report environmental impacts. The platform enables users to instantly generate Product Footprints and cradle-to-grave Life Cycle Assessments (LCAs) for recipes, packaged goods, and packaging—covering farming, processing, transport, cooking, and waste stages. It offers Scope 3 assessments to quantify indirect emissions across supply chains, aligned with international standards such as the GHG Protocol and ISO 14040, and supports compliance with frameworks including CSRD, FLAG, and SBTi. Users can upload data in bulk, identify emissions hotspots, swap ingredients, reformulate recipes, and monitor reductions over time. Foodsteps also provides Carbon Labels (A–E rating) and FoodStories to support transparent consumer communication and avoid greenwashing.
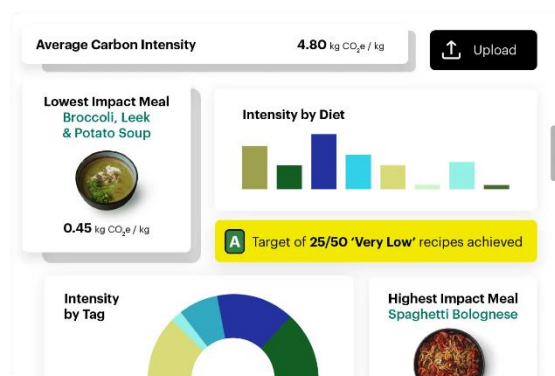
A comprehensive Knowledge Hub—featuring guides, case studies, webinars, and industry news—supports learning and regulatory alignment. By combining lifecycle data, communication tools, and sector-specific resources, Foodsteps enables businesses to comply with environmental regulations, and strengthen sustainability credibility through science-based evidence.

EVENT

01

The 13th Biennial Conference of the Indian Society for Ecological Economics (INSEE)

January 11-14, 2026 | In-person | Indian Institute of Technology Mandi, Himachal Pradesh, India | Source |

The 13th INSEE Biennial Conference, themed *"Ecological Restoration for a Resilient Society: Economics, Policies and Institutions,"* will be held from 11–14 January 2026 at IIT Mandi, India. Organized by the Indian Society for Ecological Economics, the event will bring together scholars and practitioners to explore restoration across land, water, and urban ecosystems. Key topics include restoration policy, gender and livelihoods, ecological justice, and evaluation methods. While abstract submissions have closed on June, registration remains open until 15 November 2025.

02

The 13th International Conference on Asia Agriculture and Animal (ICAAA 2026)

January 16-18, 2026 | In-person | Sapporo, Japan | Source |

The 13th ICAAA 2026 will be held on January 16–18, 2026, in Sapporo, Japan. The event will gather global researchers, practitioners, and industry actors to exchange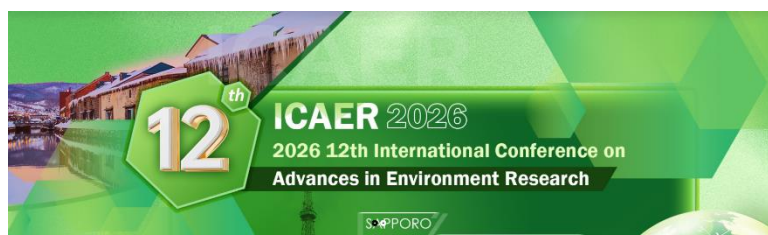 cutting-edge research and practical innovations across agricultural system and animal science. Topics span biotechnology, precision farming, ecological engineering, food safety, and livestock health. Accepted papers will be published in BIO Web of Conferences. Submission deadline is August 31, 2025, and registration closes on October 5, 2025.

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03

The 12th International Conference on Advances in Environment Research (ICAER 2026)

January 16-18, 2026 | In-person | Sapporo, Japan | Source |

The 12th ICAER 2026 will take place on January 16–18, 2026, in Sapporo, Japan. This interdisciplinary event invites global researchers to present innovations in environmental science, sustainability, resource management, climate change, and clean technologies. Accepted full papers will be published in the *International Journal of Environmental Science and Development (IJESD)*. The submission deadline is August 31, 2025, and registration closes on October 5, 2025.

04

The 8th International Conference on Sustainable Agriculture for Food Security (Agri Vision- 2026)

January 28-30, 2026 | In-person | Bhubaneswar, Odisha, India | Source |

Agri Vision 2026 will be held from January 28–30, 2026, at the ICAR-Indian Institute of Horticultural Research – Central Horticultural Experiment Station (ICAR-IIHR-CHES) in Bhubaneswar, India. Jointly organized by the Society for Agricultural Research and Management (SARM) and ICAR-IIHR-CHES, the conference will address the theme *"Challenges to food security and nutrition: New age technologies to address them."*

Core themes include climate-smart agriculture, digital innovation, sustainable horticulture, livestock and aquaculture systems, agri-entrepreneurship, bioenergy, agri-finance, and rural development. The conference welcomes researchers, scientists, educators, agribusiness professionals, and policymakers seeking to engage in knowledge exchange, explore emerging innovations, and strengthen networks. Program highlights feature plenary talks, technical and poster presentations, farmer-industry interactions, exhibitions, and cultural activities. Abstract submissions are due by December 25, 2025, and registration closes on January 9, 2026.

Smart & Net-Zero Project

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World Sustainable Energy Days 2026

February 25-27, 2026 | In-person | Wels, Austria | Source |

The World Sustainable Energy Days 2026 will take place from 25–27 February in Wels, Austria, bringing together over 650 experts from more than 60 countries. The event features six major conferences, including the European Pellet Conference, Energy Efficiency Conference, and Smart E-Mobility, focusing on energy efficiency, renewable energy, climate neutrality, and industrial transition. Participants range from researchers and policymakers to industry leaders and service providers. Topics include innovative technologies, policies, business models, and best practices. The Call for Papers and Speakers is open until 10 October 2025, with selected contributions presented in oral or poster sessions and eligible for publication in the proceedings.