

2025 APEC Mid-term Progress Review for Food Loss and Waste

Explanations and Preliminary results

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June 05, 2025, Evergreen Laurel Hotel (Taichung)

Outline

1. Recap of Food Security Roadmap Towards 2030, specifically Action Plan 17e;
2. Explain the framework and sources for the progress review draft; and
3. Provide an overall progress review (preliminary results).



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Recap: Food Security Roadmap towards 2030

Food Security Roadmap Towards 2030

The Food Security Roadmap Towards 2030 will establish open, fair, transparent, productive, sustainable, and resilient APEC food systems that ensure access to sufficient, safe, affordable, and nutritious food to meet dietary needs and food preferences for active and healthy lives.

- New Zealand, 2021 (revised in Thailand, 2022)
- The Food Security Roadmap Towards 2030 addresses the Aotearoa Plan of Action and builds on the earlier Food Security Roadmap Towards 2020, the original 2010 Niigata Declaration, and other related declarations and joint statements issued since the establishment of the Policy Partnership on Food Security (PPFS) in 2011.
- https://www.apec.org/Meeting-Papers/Sectoral-Ministerial-Meetings/Food-Security/2021_food_security/Annex

Five key action areas in the Roadmap

- Digitalization and Innovation
- Productivity
- Inclusivity
- **Sustainability:**
To improve the APEC food system's environment including sharing research and practical strategies to reduce greenhouse gas emissions, adapt to climate change, increase sustainable production, processing and consumption and to **reduce food loss and waste**.
- Public Private Partnerships

Action Area 17e Reducing Food Loss and Waste

17. To assist economies in achieving their individual *sustainability goals*, economies have committed to the following actions:

(e) : To Provide **capacity building and best practice sharing workshops** to support member economies' individual and collective efforts to *align with the UN Sustainable Development Goals 12.3 "by 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses,"* with **specific indicators** based on each economy's respective situation such as measured by the UN/FAO Food Waste Index (FWI) or other appropriate index. And **promote public-private investment** in infrastructure and cold chain to reduce the current levels of food loss and waste and **review progress in this area by 2025**.

Implementation Plan, 17e (Individual Actions)

1. *Measurement and regular data collection*: FAO's Food Loss Index, UNEP's Food Waste Index or other appropriate index based on each economy's respective situation, even if it's on at least one type of food item or on one stage of the food supply chain.
2. *Coordination and communication channels*: coordination and communication with
 - other government agencies;
 - non-profit organizations;
 - private sectors;
 - consumers;
 - research institutes; and
 - other economies in their region

Implementation Plan, 17e (Individual Actions)

3. *Legislation*: e.g., food donation non-liability, food labeling, other fiscal incentives, and enhancing international agricultural trade, etc.
4. *Non-legislative projects*: e.g., FLW champions, FLW innovation awards, FLW funding, and FLW roadmaps, etc.
5. *Mid-term economic and social development plans*: include FLW reduction objectives in their mid-term strategic plans.
6. *Other infrastructures*: e.g., roads, electricity, cold chain, telecommunication and internet services, and credit access

Implementation Plan, 17e (Collective Actions)

1. Develop, support, and implement complementary projects on reducing FLW within all 21 APEC economies.
2. Hold, where possible, annual FLW Workshops to build capacity, share best practices, and deliver each economy's progress report.
3. Support and harmonize reducing FLW activities, liaise with other relevant APEC sub-fora and international organizations, and carry out other activities to share best practices on FLW reduction.
4. Support mapping or recognition of non-profit organizations and academic institutions that produce evidence and research regarding FLW.
5. Continuously update APEC-FLOWS platform (URL: <http://apec-flows.ntu.edu.tw/>) for APEC members to share innovative technologies, business opportunities, and best practices on reducing FLW.



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Framework: Target-Measure-Act

Target-Measure-Act

- Champions 12.3 coalition of executives
- Since 2016 toward achieving SDG 12.3 by 2030
- Not necessarily done sequentially:
 - You may need a measurement before you can target.
 - Sometimes, especially if an economy lacks the capacity, they can go straight to Action. We cannot wait for data before acting.
 - So, the reverse sequence can also be done (I think): Act-Measure-Target.



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Sources:



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Advancing Free Trade
for Asia-Pacific Prosperity

Reducing Food Waste by Using Information and Communications Technology (ICT) and Innovative Technologies

Tokyo, Japan | 10-11 July 2019

APEC Policy Partnership on Food Security

October 2019



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Advancing Free Trade
for Asia-Pacific Prosperity

APEC Survey Report on Feasible Solutions for Food Loss and Waste Reduction

APEC Agricultural Technical Cooperation Working Group

APEC Policy Partnership on Food Security

August 2018



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Advancing Free Trade
for Asia-Pacific **Prosperity**

Reducing Food Loss and Waste along the Food Value Chain in APEC during and post- COVID-19 Pandemic

APEC Policy Partnership on Food Security

March 2022



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Advancing Free Trade
for Asia-Pacific **Prosperity**

Sustainable Materials Management of Food in the APEC Region: A Review of Public Policies That Support Reducing Food Loss and Waste

APEC Agricultural Technical Cooperation Working Group

June 2022

**Reducing Food Loss and Waste by
Strengthening Resilience of APEC Food
System and Enhancing Digitalization and
Innovative Technologies**

APEC Agricultural Technical Cooperation Working Group

May 2024



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**APEC
Food Loss and Waste (FLW)
Reduction Survey (2024)**



Survey and Workshop on Preventing and Reducing Food Loss and Waste (FLW) to Achieve Sustainable Food Systems in APEC Economies

APEC Policy Partnership
on Food Security

January 2025

OECD publishing

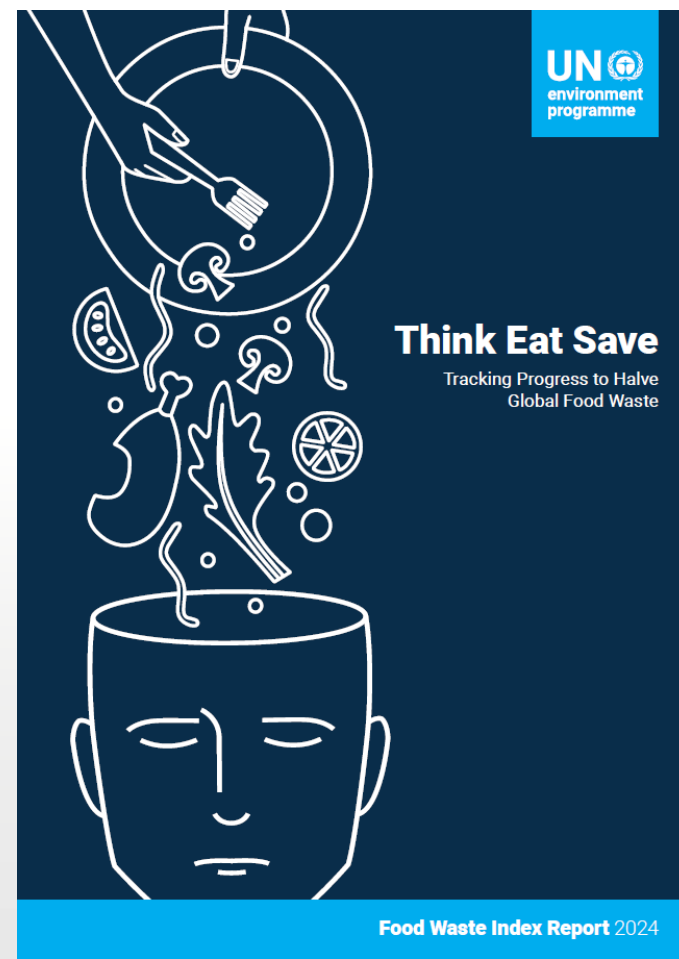
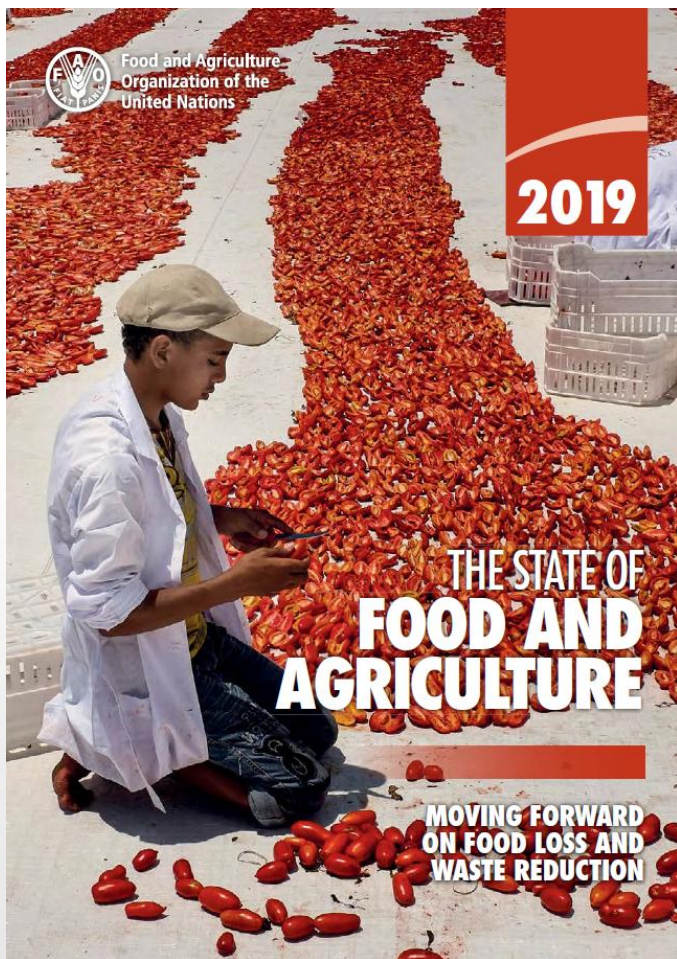
BEYOND FOOD LOSS AND WASTE REDUCTION TARGETS

TRANSLATING REDUCTION AMBITIONS
INTO POLICY OUTCOMES

OECD FOOD, AGRICULTURE
AND FISHERIES PAPER N° 214

January 2025





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SDG Indicators Data Portal

[Data](#) [Assessment of country capacity](#) [Methods and tools](#) [Resources](#) ▾ [Events](#)

FAODATA Explorer BETA

is new dissemination platform to access, filter, explore, download and share FAO statistics. The platform is currently a beta version as it is under development and will gradually be populated with existing FAO statistics on food, agriculture, nutrition, fisheries and aquaculture currently disseminated through FAOSTAT and FishSTAT. FAODATA explorer (Beta version) includes SDG data of the 21 indicators under FAO custodianship, also disseminated in FAOSTAT and the UN Global SDG Database. Your feedback and suggested improvements on the new platform are welcome. Please contact: data-explorer@fao.org

Search by keywords

or browse by

Domain Sustainable Development Goals (SDGs)

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FAO DATA Explorer Beta

The “FAODATA explorer” is FAO’s new dissemination platform to access, filter, explore, download and share FAO statistics. The platform is currently a beta version as it is under development and will gradually be populated with existing FAO statistics on food, agriculture, nutrition, fisheries and aquaculture currently disseminated through **FAOSTAT** and **FishSTAT**.

Note to users: As for now, FAODATA explorer (Beta version) includes SDG data of the 22 indicators under FAO custodianship, also disseminated in **FAOSTAT** and the **UN Global SDG Database**.

Your feedback and suggested improvements on the new platform are welcome.

Please contact: data-explorer@fao.org.



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Technical Platform on the Measurement and Reduction of Food Loss and Waste (TPFLW)



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Food Loss and Waste Database

Take an in-depth look at what food is being lost and wasted, and where



The Global Food Donation Policy Atlas

[Map View](#)
[List View](#)

Economy	Economy Data	Food Safety for Donations	Data Labeling	Liability Protection for Food Donations	Tax Incentives	Tax Barriers	Food Waste
Argentina	<p>Population - 46,621,847</p> <p>Global Food Security index - 64.8</p> <p>Food lost and waste - 16 million tons</p>	<p>NO POLICY</p> <p>Government regulates food safety, but relevant laws, policies, and regulations do not clearly reference food donation. Government offers no additional guidance on food safety for donations. The Argentine Food Code containing the national food safety laws does not feature a donation-specific section. The Economy has also not adopted clear guidance regarding the requirements or best practices for the safety of donated foods.</p>	<p>LIMITED POLICY</p> <p>Government requires standard date labels for certain foods but does not clearly distinguish between quality-based and safety-based labels and does not permit donation after the quality-based date. Argentina's existing date labeling regime allows manufacturers to select from several labels and does not clearly convey whether the date refers to the food's quality or safety. These requirements align with those established by the Mercosur trade group of which Argentina is a</p>	<p>STRONG POLICY</p> <p>Government has adopted comprehensive civil and/or criminal liability protections that protect both food donors and food recovery organizations. Such protections are available nationally and support food donation as a safe alternative to discarding food in an expensive set of situations. Argentina is one of the few countries to offer comprehensive national liability protections for food donors and food recovery organizations. The liability protection contained in</p>	<p>LIMITED POLICY</p> <p>Government offers tax deductions and/or tax credits for in-kind food donations made to food recovery organizations. However, valuation of the donated food prevents food donors from actually receiving any monetary benefit and/or the benefit cap is too low to provide an economic incentive (at 5 percent or below of the donor's annual revenue). Argentina offers a standard tax deduction for certain food donations of up to 5 percent of the donor's net taxable profits. However, most donors</p>	<p>YES</p> <p>The value-added tax (IGV/VAT/IVA) or other tax levied on sold goods is levied on food that is donated, or a credit on the VAT incurred when acquiring raw goods cannot be credited for food that is donated. Thus, donors and/or recipient organizations bear this additional cost. The existing tax scheme creates a barrier to donation as a result of the VAT (Impuesto al Valor Agregado). Taxpayers in Argentina are permitted to claim a VAT credit for food that is discarded by</p>	<p>NO POLICY</p> <p>Government requires food recovery organizations to have no national liability protection for food donors and food recovery organizations. Such protections are available nationally and support food donation as a safe alternative to discarding food in an expensive set of situations. Argentina is one of the few countries to offer comprehensive national liability protections for food donors and food recovery organizations. The liability protection contained in</p>



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Target-Measure-Act

Target

- We found goals/targets for *most* of the economies.
- Most are aligned with SDG 12.3: 13 out of 21 economies
 - May not exactly be the same, e.g.,
 - The **US** (Sep 2015) aims to reduce *both* food loss and waste by 50% by 2030
 - **CT** SDG 12.3 states that it will reduce FLW by 2030, *without* specifying the 50%.
 - Not explicitly stated but aligned = **MEX**
 - About to make it explicit = **PE**
 - Not SDG12.3 = **BD, PRC, HKC, PNG, PHL, RUS, SGP, VN**

Target

- Other goals which could reduce FLW (in their NDC or overall environmental plan):
 - zero or reduce organic waste to landfill (Ontario-[CDA](#), [HKC](#), [SGP](#));
 - organic waste recovery and composting ([CHL](#), [JPN](#));
 - green city ([PH](#))
- Where are FLW goals included?
 - Published SDG goals ([CT](#));
 - NDC ([CDA](#));
 - FLW roadmap/plan ([PRC](#), [NZ](#));
 - Environmental/waste plans ([HKC](#), [SGP](#));
 - Mid-term development plans ([INA](#)); or
 - Law ([JPN](#), [THA](#)).
- Most goals, especially the ones with a specific target measure, are for food waste.
- With food loss targets (apart from SDG 12.3): [PRC](#), [MEX](#), [PHL](#), [CT](#)

Target

- **PRC**: by 2027, *inter alia*, reduce food loss rate to “below the international average”.
- Some economies have exact goals, e.g.,
 - **CHL**: (a) 500,000 families to use compost bins and recover 30% of organic waste generated at municipal level by 2030; (b) 5,000 education centers with compost bins and recover 66% of organic waste by 2040.
 - **HKC**: ↓ per capita MSW disposal by 40–45% and achieve zero landfill by 2035.
 - **SGP**: ↓ 30% daily waste sent to their landfill
 - **CT**: ↓ per capita food waste to 10.02mt, and fruits & vegetable food loss to 8.8% by 2030.
 - **THA**: ↓ %-age of food waste in solid waste to < 28% by 2027; 5% reduction in food loss of target items
- Baseline:
 - Mostly 2015 because of SDG.
 - **JPN** (2001), **AUS** (2019)
 - In progress: **NZ**, **THA**(?).



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Target-Measure-Act

Measure

- Data mostly from FAO Food Loss and Waste Database and UN SDG data portal.
- Estimates from government websites and news reports. You may delete them if you want.
- A comment on definition (FAO 2019) and measurement:
 - Food Loss – *“the decrease in the quantity or quality of food resulting from decisions and actions by food suppliers in the chain, excluding retail, food service providers and consumers.”*
 - Food Waste – *“decrease in the quantity or quality of food resulting from decisions and actions by retailers, food services and consumers.”*
 - BUT available data only refers to loss in quantity (i.e., lost or thrown away).
- Food Loss, Food Waste, Food Loss and Waste (whole supply chain)
- Food Balance Sheet and Mass Flow Method, except for BD and SGP.

Measure

- For most of the economies, food waste was easier to get a hold of compared to food loss.
- Most of these come from the UNEP reports of 2021 and 2024, whose “Estimates of individual [economies] ... are datapoints from existing studies or extrapolations from other [economies]’ data.” (UNEP 2024, p.7) In 2024, they included more information about their sources and how the sources compiled their data.
- One “advantage” of food waste estimates is that all of it can be lumped together, unlike food loss which is measured separately by commodity and stage of the supply chain.

Measure: Food Loss

- Food loss estimates from FAO FLW database:
 - We mostly used the latest data. We excluded data from the 90s.
 - We exclude retail, consumption, and whole supply chain.
 - When there are multiple estimates for a stage of the supply chain, we input a range.
 - Some sources that the FAO Database cites cannot be found anymore. If the source can be found, we include those in the report.
 - Only the US has estimates for livestock food loss (cattle, sheep, pigs)

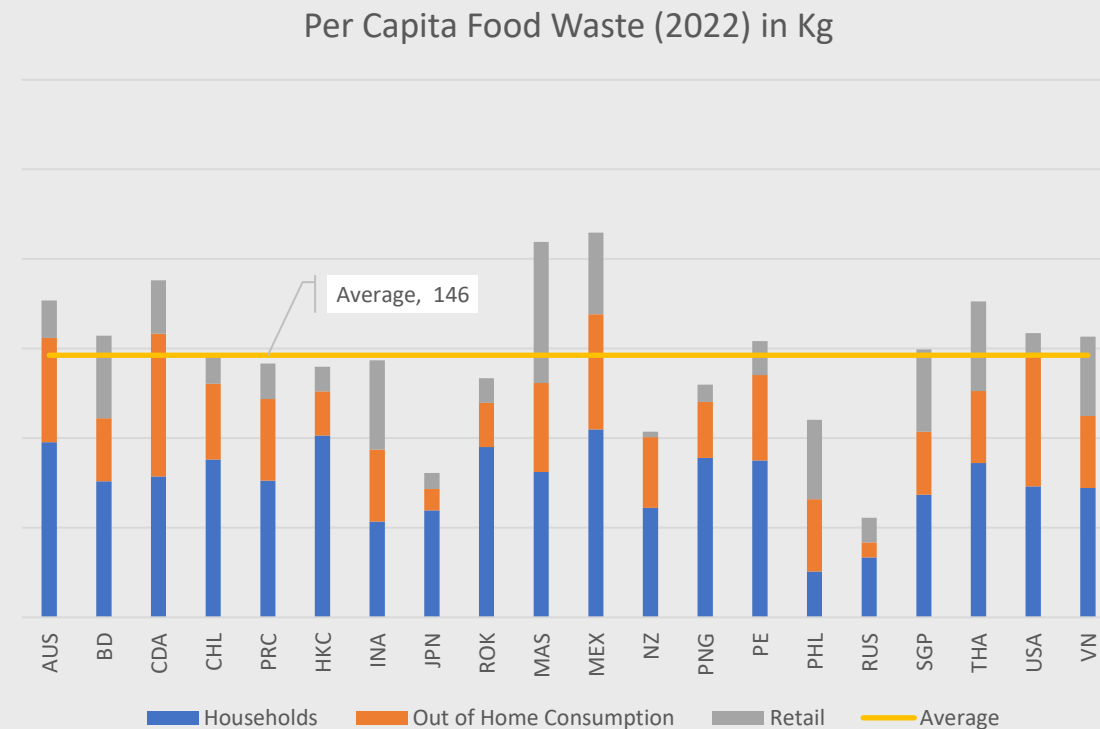
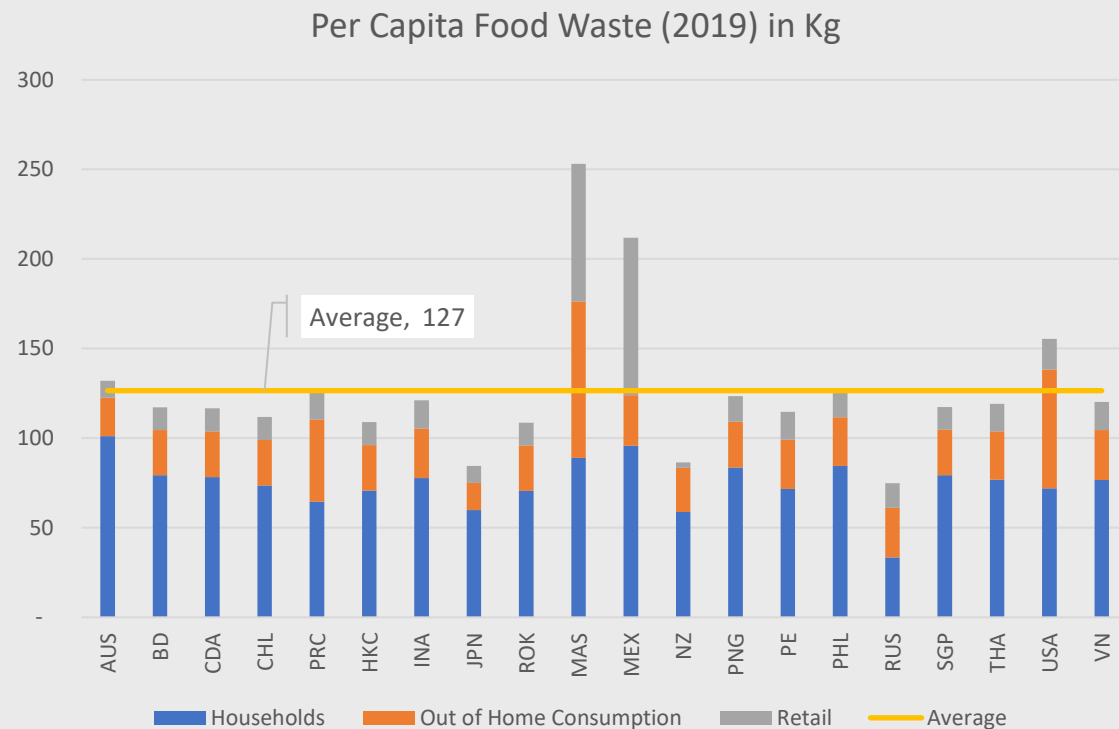
Measure: Food Waste (from UNEP)

- Data for years 2019 and 2022.
- Three sources: Household, Out-of-home consumption, and Retail.
- Two measure: Food waste in tonnes, and Per capita food waste in Kg.
- *Total* food waste increased by **11%**, while *per capita* food waste increased by **16%** from 2019 to 2022 across APEC*.
- Food waste per capita distribution:

	2019	2022
Household	59%	52%
Out-of-home consumption	25%	28%
Retail	16%	20%

* CT not included in UNEP report

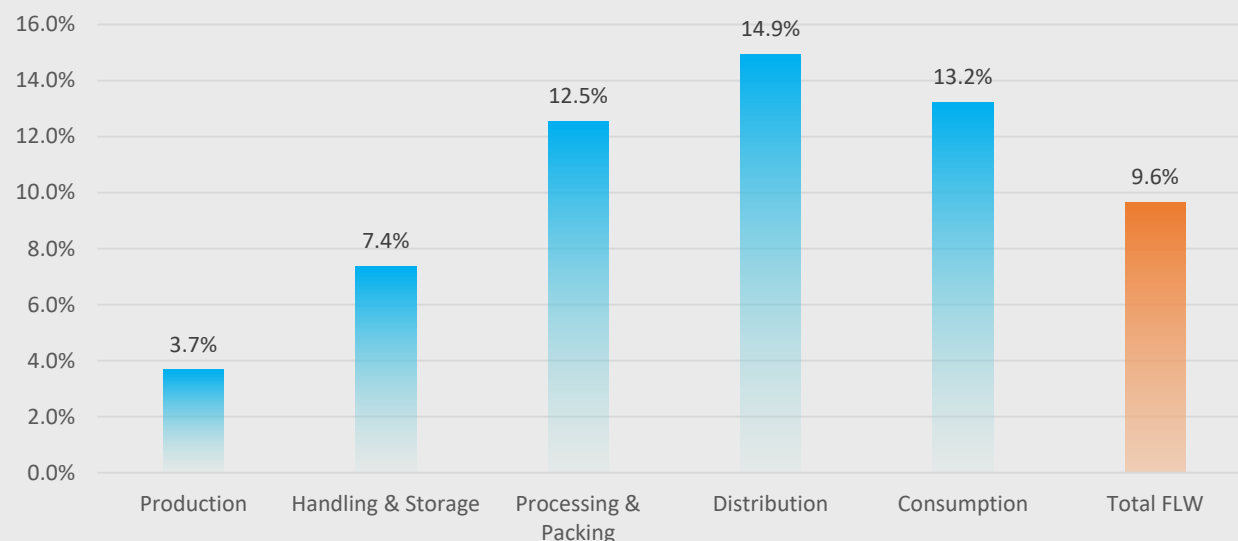
Measure: Food Waste (from UNEP)



* CT not included in UNEP report

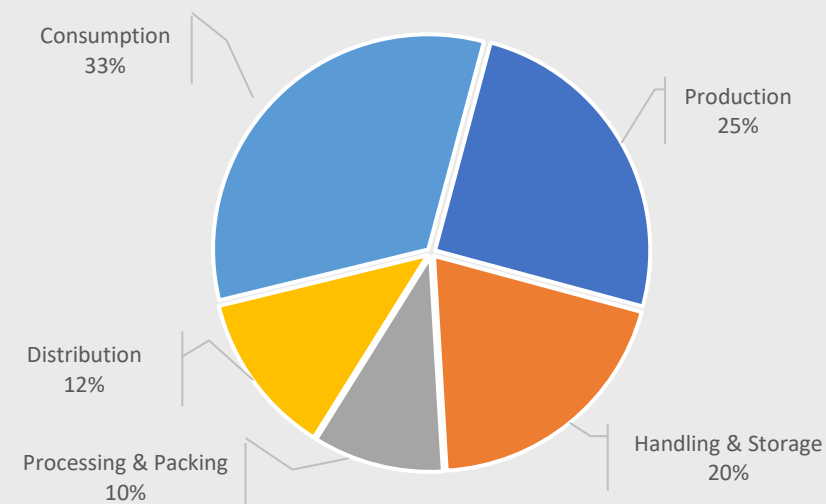
Measure: FLW using Mass Flow Method

APEC* FLW Growth by stage of food supply chain
(2015–2022)



* BD and SGP do not have food balance sheet

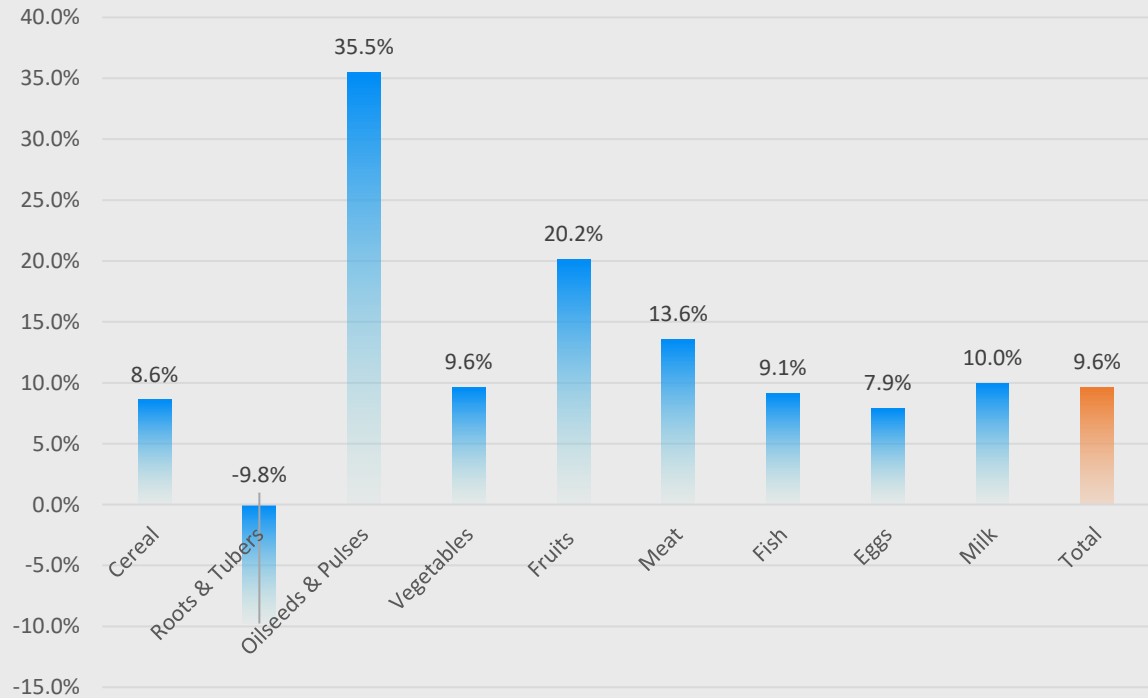
2022 Distribution of FLW by stage food supply chain in
APEC*



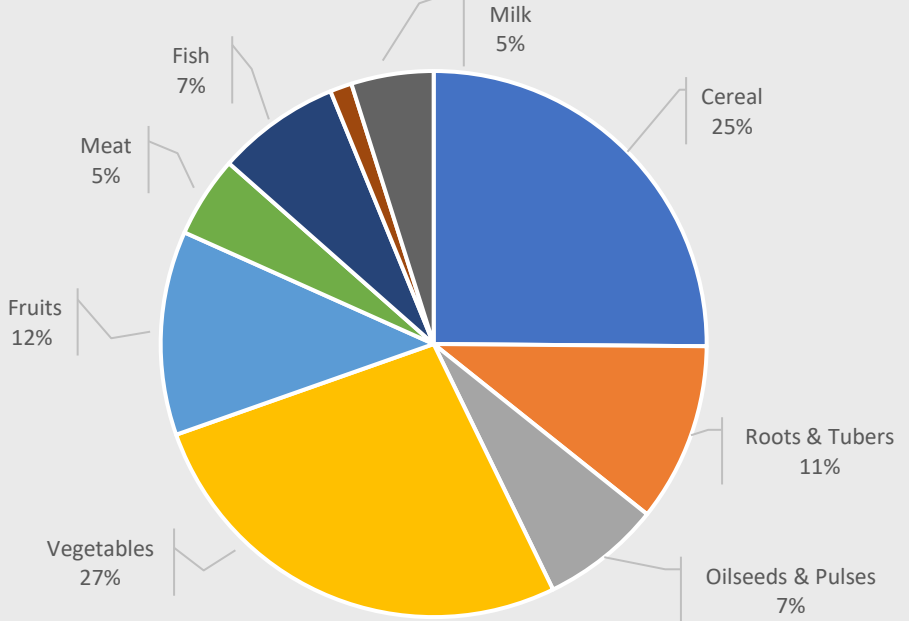
† The distribution in 2015 is more or less the same.

Measure: FLW using Mass Flow Method

APEC* FLW Growth by Commodity Type (2015–2022)



2022 Distribution of FLW by commodity in APEC*



* BD and SGP do not have food balance sheet

Measure: FLW using Mass Flow Method

- On average, FLW in APEC* grew by **9.6%** (2015–2022) or **1.32%** annually.
 - In terms of **economy**, this is mostly due to INA, MEX, PE.
 - Only RUS and CT had lower food loss and waste.
 - For RUS, this is attributable to the production side, especially of Roots and Tubers.
 - For CT, this is due to lower food waste in the consumption side, especially milk products.
 - In terms of **stage of supply chain**, the growth in FLW is mostly from the lower stream stages: processing/packaging, distribution and consumption.
 - In terms of **commodity group**, the growth in FLW is due to seeds & pulses (especially AUS, INA, RUS, THA) and Fruits (especially MAS).

* BD and SGP do not have food balance sheet

Measure: FLW using Mass Flow Method

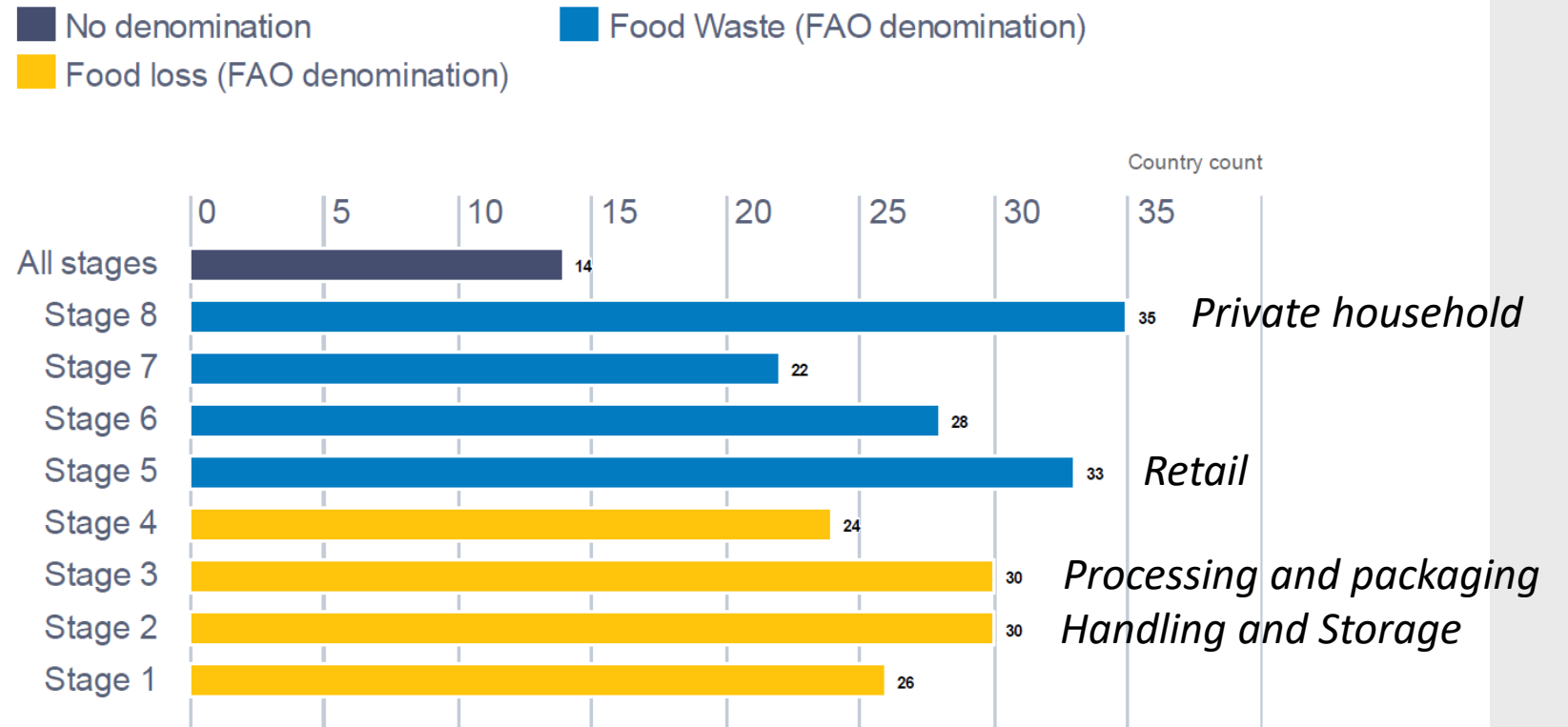
- The distribution of FLW across stages of the supply chain and across commodity groups has not changed much between 2019 and 2022.
 - Stage food supply chain: highest is consumption (32–33%), then production (25–27%).
 - Commodity group: highest is vegetables (27%), then cereals (25%).



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Target-Measure-Act

Figure 2.10. Level of policy attention across agro-food chain stages



Note: Stages of the agro-food chain : Stage 1 Primary agricultural production (on farm), Stage 2 Agricultural handling and storage (post-harvest), Stage 3 Food processing and packaging, Stage 4 Wholesale, Stage 5 Retail, Stage 6 Hospitality and food services, Stage 7 Public food procurement, including public schools, Stage 8 Private households.

Source: OECD Questionnaire on Food Loss and Waste Reduction Policies, 2023.

OECD (2025, p.25)

42 economies, of which
11 are APEC members

Act

- All the individual actions under the implementation plan of 17e were based on what APEC economies were already doing.
- **Redistribution**: partnering with food banks, online platforms, tax incentives, legal protection, food sharing phone apps.
 - Food Policy Atlas: <https://atlas.foodbanking.org/map/> (10 out of 21 APEC members)
- **Education and campaigns** for consumers and businesses, including
 - Love Food Hate Waste; Clean Plate Campaigns
 - government webpages (mostly by the environment agency):

■ AUS	■ HKC	■ SGP	■ USA (3)
■ CDA	■ JPN (3*)	■ CT *	
■ CHL (2)	■ ROK *	■ THA (website)	

* has local government webpages on food loss and waste

Act

- **Circular Economy**: recycling programs like recycling waste to feeds for poultry, cattle or aquaculture; composting, including feeding waste to insects or worms; waste-to-energy/bioenergy; upcycling food waste; etc.
- **Household waste management**: smart bins, promoting organic bins and compost bins, waste segregation, charging for trash
- Food Loss and Waste **Reports/Guidelines/Roadmaps/Laws**:
 - 15 member economies
 - Currently planning a strategy for FLW reduction (4): CDA, INA, MEX, PE.
 - Proposing bills related to FLW (2): PHL and RUS
- **Funding** including subsidy to manufacturers & recyclers; contests or award schemes.

Act: Reports/Guidelines/Roadmaps/Laws

- Australia:
 - 2017 N. Food Waste Strategy: Halving Australia's food waste by 2030
 - 2020 Roadmap for reducing Australia's food waste by half by 2030.
 - 2024 N. Waste Policy Action Plan
- Canada:
 - 2019 Taking stock: Reducing food loss and waste in Canada
 - Environment and Climate Change website has guidelines for food sector businesses, consumers, and educators
- Chile:
 - 2021 N. Strategy on Organic Waste Chile 2040
 - 2021 Chile Legal Guide Food Donation Law and Policy (by Harvard Law School FLPC)
 - 2019 Guide for Preventing and Reducing Fruits and Vegetable Losses

Act: Reports/Guidelines/Roadmaps/Laws

- China:
 - 2021 Anti-Food Waste Law with an Action Plan for Food Conservation and Anti-Food Waste 《粮食节约和反食品浪费行动方案》
- Hong Kong, China:
 - Waste Blueprint for Hong Kong 2035 includes strategies for fighting food waste
 - A Food Waste & Yard Waste Plan for Hong Kong 2014–2022.
- Japan:
 - 2001 Food Recycling Law (a 23-year plan)
 - Food Drive Guidance for local governments and community groups
- Republic of Korea
 - 2010 Comprehensive measures to reduce food waste

Act: Reports/Guidelines/Roadmaps/Laws

- Malaysia:
 - Food Waste Management Development Plan for Industry, Commercial and Institution Sector (2016–2026)
- Mexico:
 - 2020 Mexico Conceptual Framework for a N. Strategy on Food Loss and Waste (by WRAP and World Bank)
- New Zealand:
 - 2023 Food loss and waste definitions for Aotearoa New Zealand
 - 2021 Food Waste Reduction Roadmap (by NZ Champions 12.3)
- Peru:
 - 2019 Law N°30988 to Promote the Reduction and Prevention Food Loss and Waste

Act: Reports/Guidelines/Roadmaps/Laws

- Singapore:
 - 2020 Food Waste Segregation and Treatment Guidebook
 - 2020 Love Your Food: Waste Less Save More @ Canteen
 - 2019 Zero Waste Masterplan
 - 2017 Love Your Food: A Handy Guide to Reducing Food Wastage and Saving Money (for consumers)
 - 2016 food waste minimization guidebooks (for food manufacturing establishments, supermarkets, and retail food establishments)
- Chinese Taipei: 2022 Food and Agricultural Education Act
- Thailand: 2024 Food Management Action Plan Phase I (2023–2027)
- The United States: 2024 N. Strategy for Reducing Food Loss and Waste and Recycling Organics

2025 APEC Mid-term Progress Review for Food Loss and Waste



Thank you

gracias

salamat

Спасибо

Tenkyu

ขอบคุณ

kia ora

감사합니다

謝謝

terima kasih

cảm ơn bạn

谢谢

ありがとうございました