



ΧΑΡΟΚΟΠΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ
HAROKOPIO UNIVERSITY

Food waste measurement in Greece: challenges and progress

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Harokopio University of Athens (HUA) is a public university dedicated to promoting research and learning in focused set of intellectual areas related to different aspects of Quality of Life. Research in HUA contributes to the promotion of scientific knowledge and public well-being, as well as to the improvement of economic and social development of the country.

It is ranked 3rd in Greece regarding publications and references per academic member of staff.





Circular Economy Research Group (CERG)

× × × ×

HUA core team



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Professor



Christina Chroni
Assistant Professor



Katia Lasaridi
Professor - Team Leader

Professors



Stathis Fortatos



Ioannis Vardopoulos

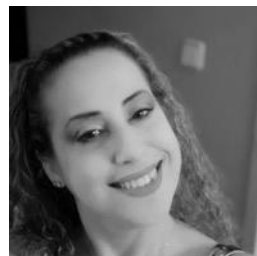
Post-Doc
Researchers



Konstantina Boikou



Evangelia Sigala



Katerina Synani



Christos Xagoraris

MSc
Researchers

LIFE-IP CEI-Greece


Circular Economy Implementation in Greece


LIFE18 IPE/GR/000013



Partners:



 The project LIFE18 IPE/GR/000013 is co-funded by the LIFE programme of the EU.

 The project LIFE18 IPE/GR/000013 is co-funded by the Green Fund.

Timeline of main Food Waste monitoring activities in Greece and related legislation



Figures (2023):

- Population: 10,394,055
- Inbound tourists: 36,082,700 (+20.8% of 2022)
- Overnight stays: 236,271,200 (+7.3% of 2022)
- ≈20% of GDP and employment
- ≈ 6.3% population equivalent

Household food waste measurement – 2013/2014, HUA



Methodology:

Diary survey – Measurement duration: 14-day diaries.

Sample: 101 households from various areas of Greece.

Timeframe: Summer of 2013 & Winter of 2014.

Main findings:

- ✓ **Total food waste:** 76.1 ± 68.3 kg/ca/yr.
- ✓ **Avoidable food waste:** 25.9 ± 34.9 kg/ca/yr (34%).
 - Top 5: vegetables (21%), cooked food without meat (20%), dairy products (17%), fruits (15%), & bakery products (10%).
- ✓ **Unavoidable food waste:** 50.2 ± 47.1 kg/ca/yr (66%).
 - Plant-derived unavoidable food waste: 91%.

Source:

Abeliotis, K., Lasaridi, K., Boikou, K., Chroni, C., 2019. *Food waste volume and composition in households in Greece*. *Global Nest J.* 21, 399–404. <https://doi.org/10.30955/gnj.003144>

Hotel food waste measurement – 2019/2021, WWF Hellas



Methodology:

Self-reporting by participating hotels, according to WWF Hellas methodology, reporting sheets and training

Sample: -Summer 2019, three 5* hotels,
-Summer 2021, eleven 5* hotels

Data analysis: WWF Hellas

Main findings:

- ✓ **Total food waste:** 230 g/cover/day
- ✓ **Prevention actions** resulted in 25% reduction

Source:

WWF Hellas, personal communication.

Project supported by WWF US and Unilever Food Solutions

Food waste measurement in AB Vassilopoulos food chain

AB Vassilopoulos (Ahold Delhaize Group): One of the largest supermarket chains in Greece.

The company committed to contribute to SDG 12.3:

- ✓ ↓50% FW generated by its own operations.
- ✓ Baseline year: 2019.

Contribution to this reduction by its suppliers & customers.

Harokopio University:

- External verification of company's annual FW accounting,
- Estimation of FW levels generated by suppliers & customers

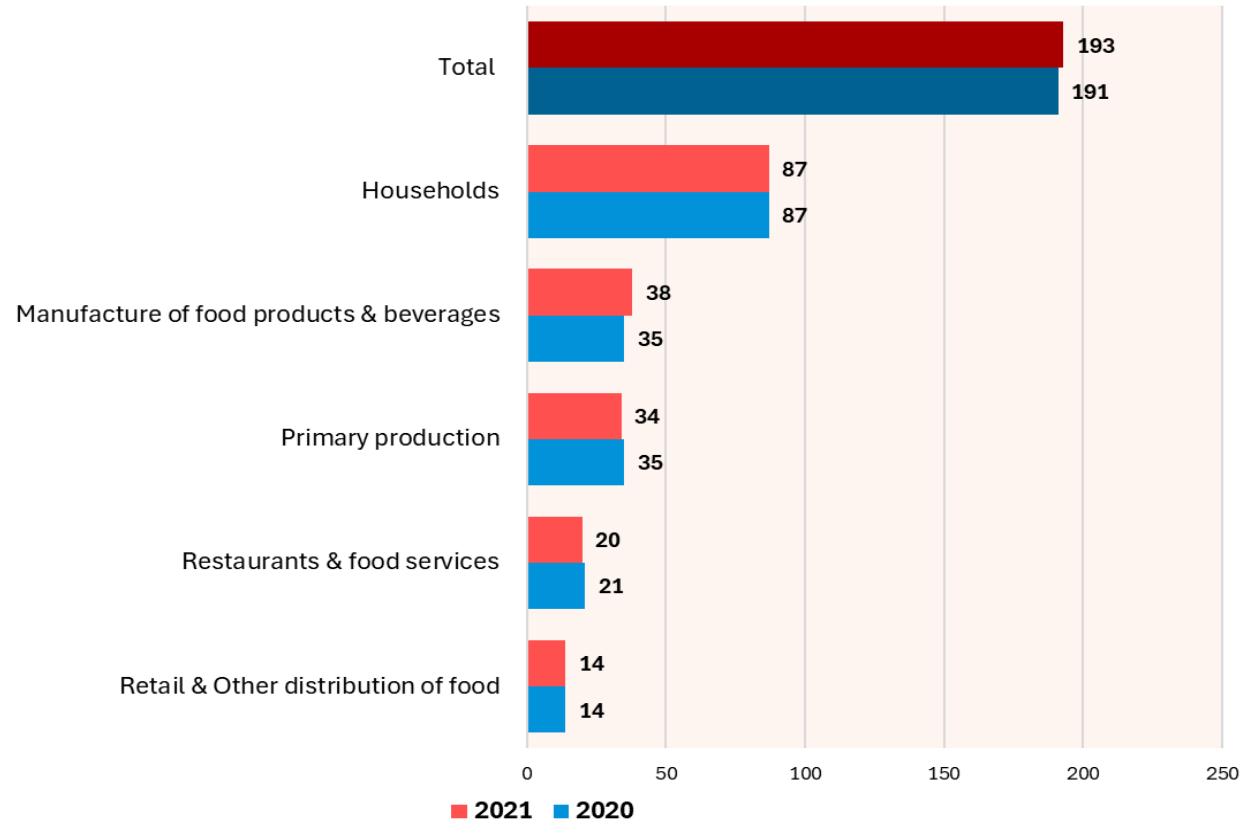
Cooperation of AB Vassilopoulos with WWF Hellas for the development of efficient food waste prevention actions.



National food waste reporting – 2020 & 2021



National food waste levels (kg/ca/year)



Notes:

1. Households: Diary study in March-April 2021, 1,133 households (under publication).
2. Manufacture: according to the Hellenic Electronic Registry of Food Waste (ERFW).
3. Primary production and Food Service Sector: Values from the JRC MFA, as calculated in the country Eurostat file, adjusted for demographic data.
4. Based on the AB Vassilopoulos study and market shares – 2021.





Household food waste – 2021

Methodology:

Online diary survey – Measurement duration: up to 7-day diaries.

Two-stage stratified random sampling: 1,133 households.

Timeframe: March 2021.

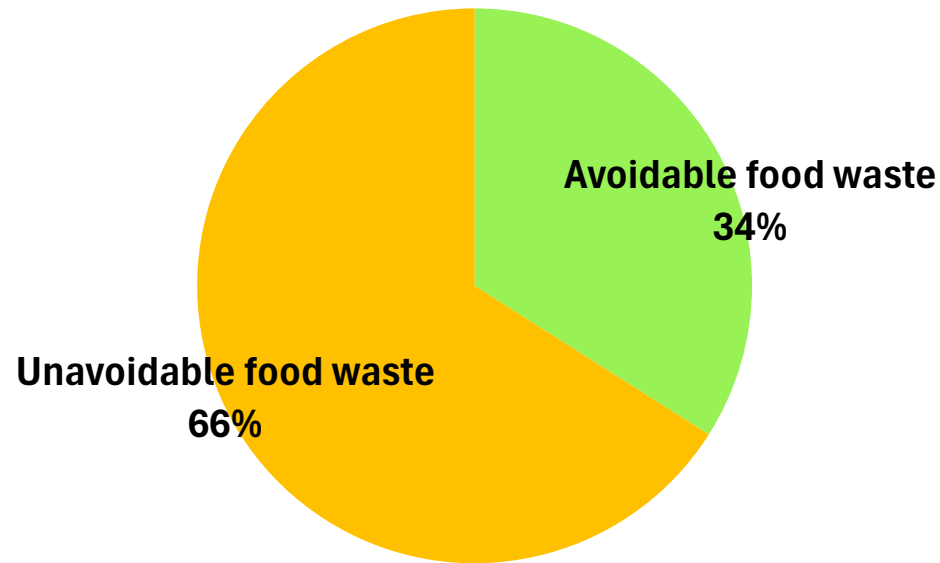
Household size	n	%
1 member	131	11.6
2 members	390	34.4
3 members	245	21.6
4 members	280	24.7
≥ 5 members	87	7.7





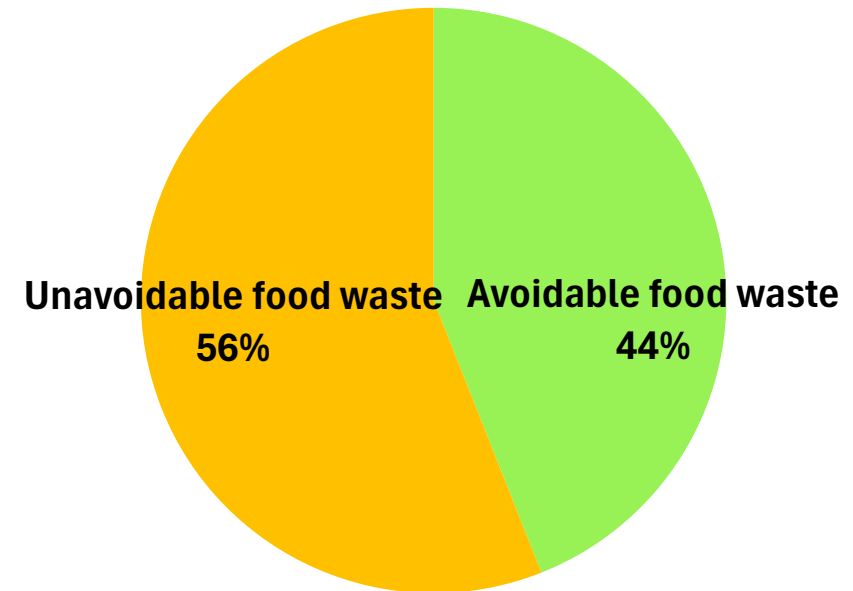
Household food waste – 2013/2014 vs. 2021

2013/ 2014

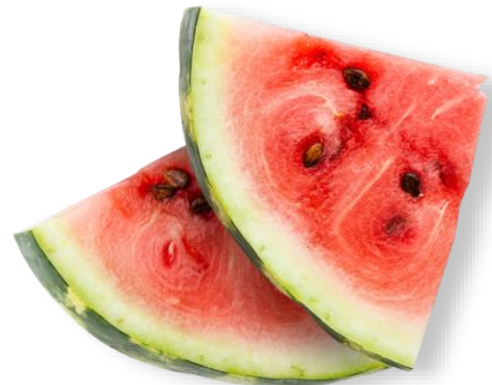


Total FW: 76.1 ± 68.3 kg/year/ca.

2021

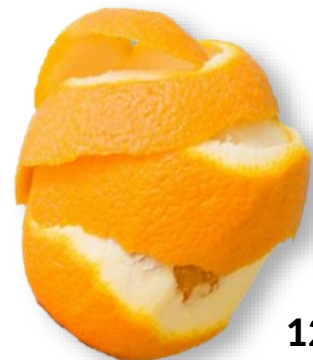


Total FW: 86.5 ± 64.5 kg/year/ca.



Source:

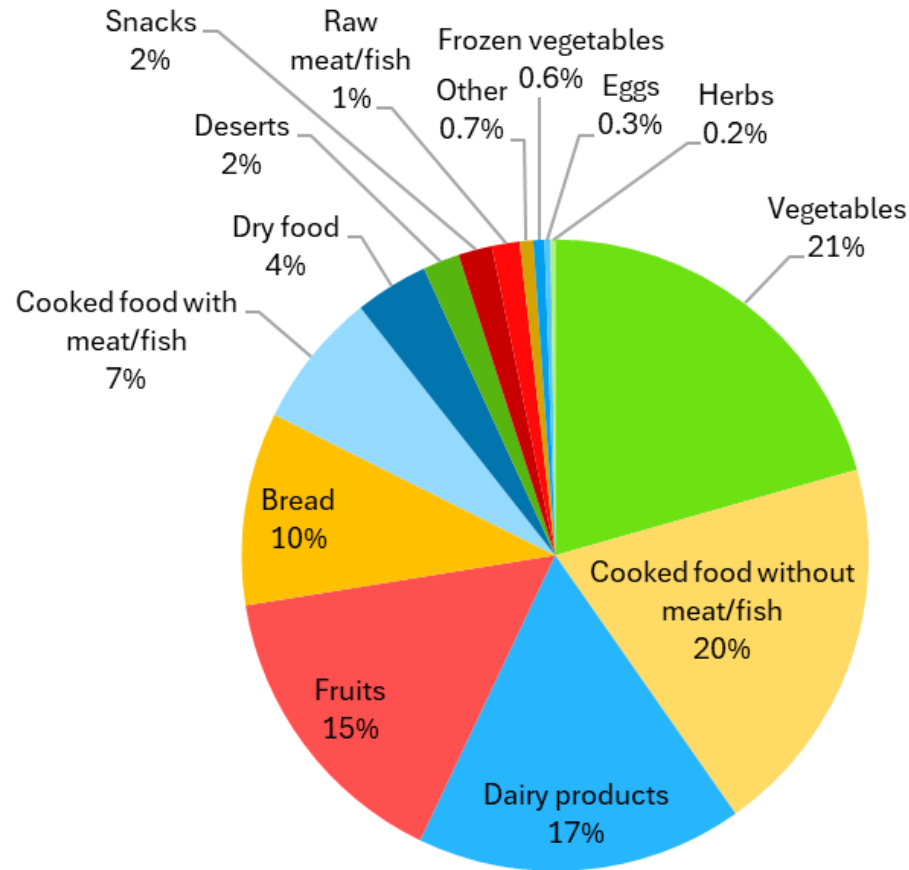
Abeliotis, K., Lasaridi, K., Boikou, K., Chroni, C., 2019. *Food waste volume and composition in households in Greece*. *Global Nest J.* 21, 399–404. <https://doi.org/10.30955/gnj.003144>





Household food waste – 2013/2014 vs. 2021

2013/ 2014

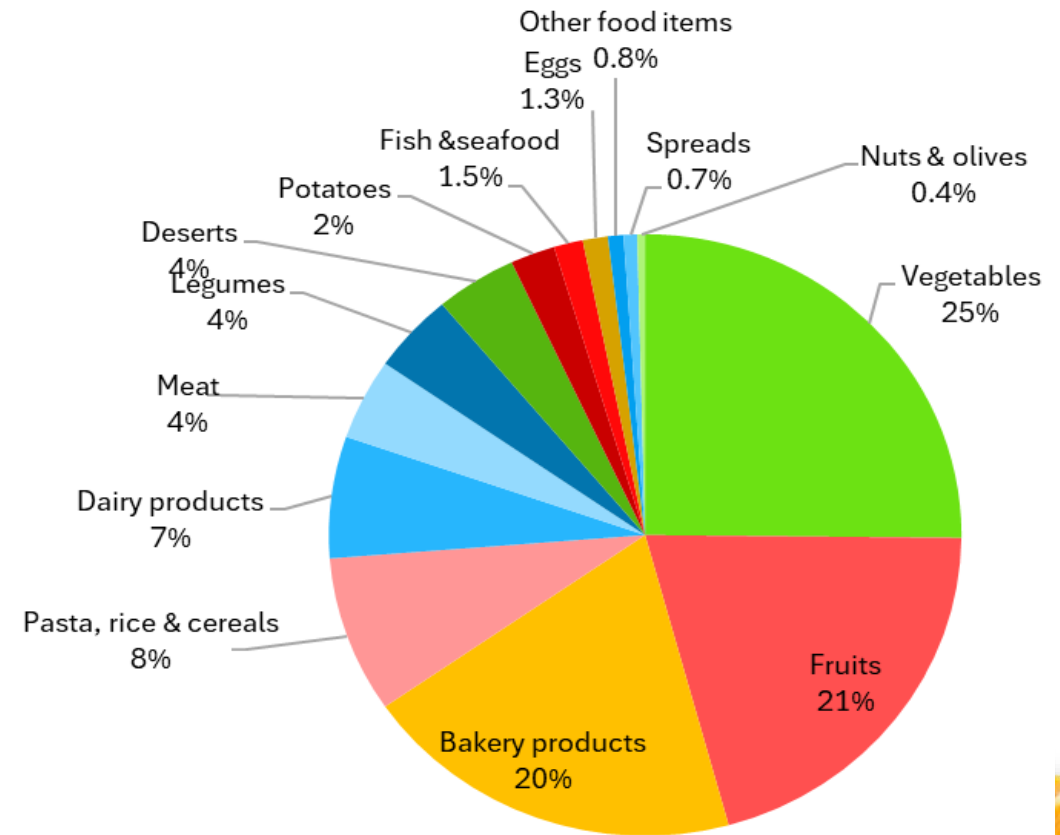


Total FW: 76.1 ± 68.3 kg/ca/yr

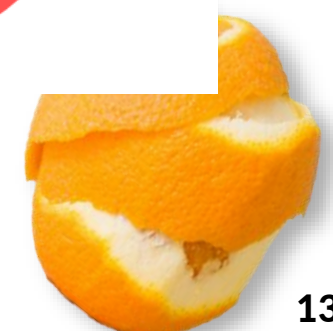
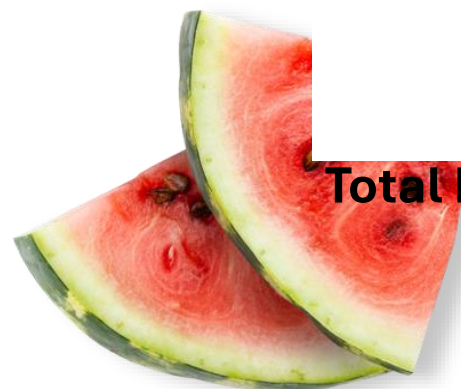
Source:

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2021



Total FW: 86.5 ± 64.5 kg/ca/yr



Law no. 4819/2021 – Measurement obligation



Article 20 of Law 4819/2021 (A' 129) → Annual FW reporting

Data on FW & food surplus

Electronic Registry of FW (in conjunction with Electronic Registry of Waste)

Ministry of Environment & Energy.

- ✓ **Environmentally Licensed Facilities - Category 02 of the EWC,**
- ✓ **Food wholesale markets,**
- ✓ **Supermarkets,**
- ✓ **Hotels (> 100 beds),**
- ✓ **Healthcare units,**
- ✓ **Nursing homes,**
- ✓ **Catering businesses (> €300,000 annual turnover),**
- ✓ **Food service businesses (> €500,000 annual turnover).**



Source:

Law no. 4819/2021, article 20, on Integrated framework for waste management, Government Gazette no. 129/A of 2021.

Law no. 4819/2021 – Targets



Targets (also in the National Waste Prevention Program):

- Reduce food loss and waste across the whole food supply chain, by 2030.
- Reduce by 30% the per-capita FW generated at retail and consumer levels (including both the food service sector and households), compared to the 2022 FW levels.



Source:

Law no. 4819/2021, article 20, on Integrated framework for waste management, Government Gazette no. 129/A of 2021.



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**Thank you
for your attention!**

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RETASTE 2024 Conference
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www.retaste.gr