

# AENU FOOD WASTE CHEAT SHEET



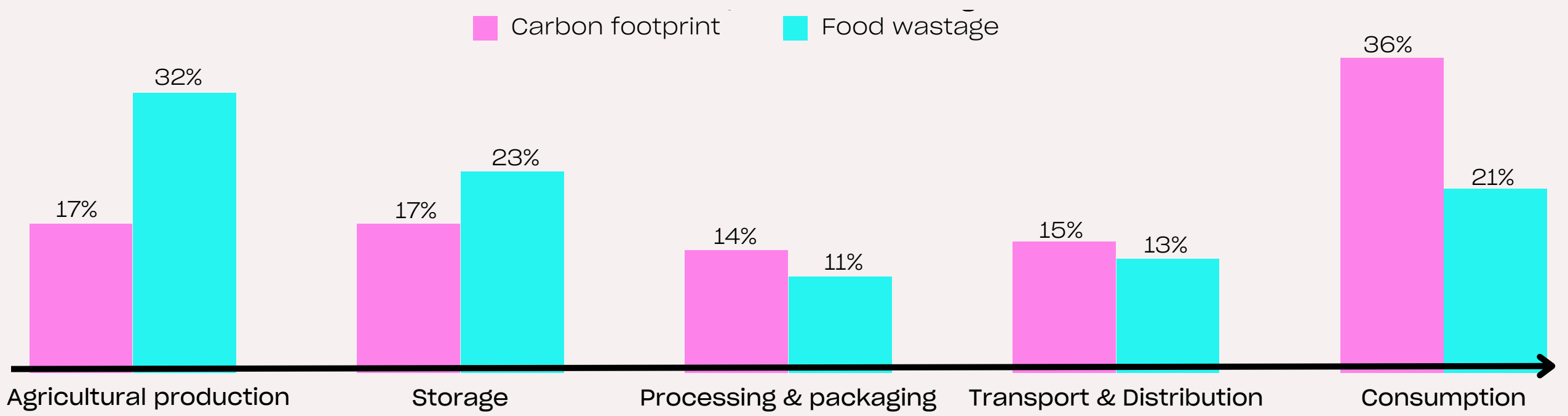
Food waste accounts for more than 6% of GHG emissions. Every food wasted represents an opportunity cost in terms of water and land usage. The food waste space has attracted investor interest for years - within some subsectors, such as markdown alerts, category leaders have emerged and there are signs of consolidation. Yet, many food waste startups struggle to reach commercial scale and achieve "unicorn" status. We see potential in the downstream food supply chain, where startups are shortening the supply chain or reducing food loss at the retail or wholesale level through different technological levers.

## The impact problem

- **1.3B tons** of food is wasted every year (1/3 of total food produced for human consumption)
- **3 Gt of CO2** are caused by food waste globally per year
- The global water footprint of food waste is **~250 km<sup>3</sup>** (14% of all freshwater consumption)
- **28%** of the world's agricultural land area **~1.4B ha** of land) is used to grow food which subsequently goes to waste



Emissions from food waste can be found at all stages of the food supply chain. All of these stages account for at least 500 Mt CO2e or more



Source: FAO

## Business Opportunity & Trends

- The total value of food waste initiatives is around **\$700B** globally (commercial and non-commercial)
- Both the **US and the EU** have set government targets to halve food waste from retail and consumers by 2030
- Consequently, many big food, retail and wholesale brands have also set waste reduction targets (CSR trend)
- Consumers have **high awareness** of the food waste issue

## Business Challenges & Limits

- The **impact** of individual interventions is **limited** as emissions are distributed along the value chain and caused by many different players
- The supply chain is very **fractioned** and decentralized
- Many **interconnected stakeholders** across supply chain with **uneven value capture**
- Retailers and wholesalers have **limited interest / willingness to pay** for food waste solutions
- Despite their awareness, consumer have **critical attitudes** towards imperfect / soon-to-expire food

## Solutions

Food waste solutions can be clustered along the well established food waste value chain which is divided into prevent, recovery and recycle segments.

	Prevent	Recover	Recycle
<b>Priority</b>	Priority 1	Priority 2	Priority 3
<b>GHG Impact</b> <small>Source: Further with Food</small>	3.3 Gt CO2e / year (global)	3 Gt CO2e / year (global)	370 Mt CO2e / year (global)
<b>Annual achievable financial benefit</b> <small>Source: ReFED</small>	\$75B (U.S)	\$9B (US)	\$133M (US)
<b>Technology plays</b>	Demand Forecasting, Supply Chain Optimization, Shelf Life, Packaging, Waste Tracking	Imperfect & Surplus Channels, Markdown Alerts & Dynamic Pricing	Upcycling

## Startups to watch



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