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INTERREG ITALY-CROATIA PROGRAMME 2021-2027 PROJECT ECOFOODCYCLE

D.1.3.1 Inspirational Guide

(Version 1.0 – 9/2025)

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Reducing Food Waste and its Environmental Footprint through Sustainable Food Systems

D.1.3.1 Inspirational Guide

WP1 – Act. 1.3

Document information

Project name	ECOFOODCYCLE — Reducing Food Waste and its Environmental Footprint through Sustainable Food Systems
Project ID	ITHR0200316
LP	Public Institution Development Agency of Lika-Senj County - LIRA
PP	Public institution Regional Development Agency of Karlovac County – JURRA – PP2 Zadar County Development Agency ZADRA NOVA – PP3 University of Rijeka, Faculty of Economics and Business – PP4 ECAMRICERT S.R.L. – PP6 University of Foggia – PP7 National Confederation of the Craft Sector and Small and Medium Enterprises Abruzzo – PP8
Responsible PP	PP4 - University of Rijeka, Faculty of Economics and Business
Length	54 pages
Version	1.0
Distribution Level	Public

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Table of contents

1. Introduction 5
2. Why Reducing Food Waste Matters? 6
3. Reducing food waste – tips for households 8
4. Reducing food waste – tips for businesses 14
5. Reducing food waste – tips for governments 20
6. Success Stories and Initiatives from Across the European Union 26
7. Success Stories and Initiatives from Croatia 29
8. Success Stories and Initiatives from Italy 37
9. Conclusions and take-home messages 52

1. Introduction

Food waste presents a global challenge, and the European Union is no exception. This guide aims to inspire and empower EU citizens, businesses, and other stakeholders to take action. Practical tips, success stories, and useful tools are showcased in the hope of building a community that values food and understands the impact of waste. Reducing food waste is not just a personal responsibility but a collective mission that benefits our planet, economy, and society!

Historically, food waste has been overlooked, often dismissed as an inevitable byproduct of modern living. However, growing awareness about climate change, resource scarcity, and ethical consumption has brought the issue to the forefront. Governments, NGOs, businesses, and individuals are increasingly recognizing the need to act. Yet, many still struggle with the numerous HOWS — how to start, how to maintain changes, and how to make a meaningful impact. This guide answers some of those questions. It distils proven practices and highlights inspirational efforts from various EU countries. Reducing food waste is not just about doing less harm; it is about doing more good. Every saved meal translates into water conserved, emissions avoided, and money saved. More importantly, it fosters a mindset of respect for food, for farmers, and for the environment. This guide is YOUR invitation to be part of that positive change.

2. Why Does Reducing Food Waste Matter?

Understanding the importance of reducing food waste is the first step toward meaningful change. The impacts of food waste are multifaceted, affecting the environment, economy, and society.

Environmentally, food waste contributes significantly to greenhouse gas emissions. When food decomposes in landfills, it produces methane, a potent greenhouse gas. This is a major contributor to climate change and a clear signal that reducing food waste must be part of any effective environmental strategy.

Economically, food waste represents a massive loss. Wasting food means wasting the resources used to produce it — land, water, labour, and energy. At the household level, families could save hundreds of euros a year simply by better managing their food. This money could be redirected towards other essential needs or sustainable choices.

Socially, food waste is an ethical issue. While millions of people in the EU struggle with food insecurity, perfectly edible food is being discarded daily. Reducing food waste can help redistribute surplus to those in need through food banks and community initiatives. It also encourages a culture of gratitude and mindfulness, shifting our relationship with food from one of convenience to one of appreciation.

From a global perspective, the EU is committed to the United Nations Sustainable Development Goal 12.3, which aims to halve per capita global food waste at the retail and consumer levels by 2030. Meeting this goal requires collective action from all stakeholders, especially households. By understanding the broader implications of food waste, individuals

are better equipped to make informed choices that align with both personal values and global goals.

Ultimately, reducing food waste is not just about preventing loss — it is about creating value. It is about making the most of what we have and ensuring that every resource, every effort, and every meal counts. It is a journey of awareness, action, and impact, and it starts in our own kitchens. This guide provides a collection of tips, good practices, and initiatives for reducing food waste at the level of households, businesses, and governments, with best practice examples from EU Member States Croatia and Italy. Implementing even a few of these tips can dramatically cut food waste. It is about building habits, one step at a time, and recognizing the value in every crumb. With consistency and awareness, everyone can become a food waste warrior in their own home.

3. Reducing Food Waste – Tips for Households

Reducing food waste at home may seem daunting, but small changes can lead to significant impacts. Here are key strategies to help households minimise waste and make the most of their food.

3.1. Plan Your Meals

Meal planning is a powerful tool for reducing waste. By planning meals for the week, you can create targeted shopping lists that prevent impulse buys and ensure you use what you purchase. Consider your schedule, the perishability of ingredients, and opportunities to repurpose leftovers. Planning also helps in balancing nutrition and avoiding last-minute takeaways.

Plan Weekly, Not Daily: Set aside 15–20 minutes once a week (e.g., on Sunday) to plan meals. Review your upcoming week's schedule—plan simple meals on busy days. Aim for meals that share ingredients to avoid leftover bits that go unused.

Keep a Waste Log: Track what you toss weekly. Is it produce, dairy, or bread? Adjust meal planning and purchasing habits based on this insight.

3.2. Shop Smart

Stick to your shopping list and avoid buying in bulk unless you are sure you can use it before it spoils. Be wary of promotional deals that encourage over-purchasing. Buy loose fruits and vegetables when possible, so you can select the exact quantity needed. Check your pantry and fridge before shopping to avoid overstocking.

Create a Precise Shopping List: List only what you need for the meals you've planned. Organise the list by store sections (produce, dairy, etc.) to avoid backtracking and impulse buys. Check your fridge and pantry first— do not overstock on items you already have.

Use Perishables First: Prioritise using ingredients that spoil quickly (e.g., leafy greens, fresh herbs, berries) early in the week. Plan dishes that use more shelf-stable items (like root vegetables, frozen foods) later in the week.

Shop Midweek if Needed: Instead of overbuying for the whole week, plan a mini midweek shop for fresh items you may run out of.

Shop and Cook Based on Portions: Plan meals by portion—not bulk. Buy only what you need. For example, do not buy 2 kg of potatoes if you only need 500 g.

3.3. Understand Date Labels

Many people confuse *use-by* and *best-before* dates. *Use-by* indicates safety and should be adhered to, especially for perishables. *Best-before* refers to quality — the food may still be safe to consume after this date, though its taste or texture might be slightly affected. Learning the difference can prevent the premature disposal of edible food.

Use-By Date = Food Safety

Definition: The *use-by* date tells you the last day the product is safe to eat.

Where it appears: Typically, on perishable items like meat, fish, dairy, and prepared meals.

Can you eat it after? No — eating it after the *use-by* date can be risky, even if it looks and smells fine.

Freezing tip: You can freeze the item before the *use-by* date to extend its life. Just label it clearly.

Best-Before Date = Food Quality

Definition: The *best-before* date refers to when the food is at its best quality (taste, texture, colour).

Where it appears: On less perishable foods like pasta, rice, canned goods, cereal, and chocolate.

Can you eat it after? Yes — often still safe to eat after this date, but the quality may decline.

Check before eating: Use your senses — smell, look, and taste a little. If it seems fine, it probably is.

3.4. Store Food Correctly

Proper storage extends the life of food. Keep your fridge below 5°C, use airtight containers, and separate foods (especially those that emit ethylene gas, like bananas or avocado, from those sensitive to it, like eggplant and leafy greens). Store fresh herbs in a glass of water and freeze items you cannot consume in time. Understanding storage can significantly reduce spoilage. Storing food correctly is one of the easiest and most effective ways to reduce food waste.

Know Your Zones (Fridge/Freezer/Pantry):

Fridge (1–5°C / 34–41°F): Dairy, cooked foods, leftovers, raw meat (bottom shelf).

Freezer (≤ -18°C / 0°F): Great for prolonging shelf life — label and date items.

Pantry/Cupboard: Store dry goods like pasta, rice, and canned foods in a cool, dark place.

Keep It Visible: Use the first in, first out rule: Put newer items at the back so older ones are used first. Clear storage bins and labels help you see what's inside.

Store Produce Properly:

Leafy greens - in a container with a paper towel (absorbs moisture)

Berries — do not wash until ready to eat; keep in original box

Herbs — in a jar of water (like flowers) + plastic bag over top

Apples, carrots — in the fridge crisper drawer

Bananas, tomatoes — room temperature (refrigeration affects flavour/texture)

Know What NOT to Refrigerate: Keep onions, garlic, potatoes, and squash in a cool, dry, dark place — not the fridge. Store bananas, avocados, peaches, and tomatoes at room temperature to ripen, then refrigerate if needed.

Freeze Wisely: Freeze leftovers, extra bread, chopped herbs (in olive oil), and even ripe bananas (for smoothies or baking). Use airtight containers or freezer bags to prevent food damage. Label with date and contents so nothing gets lost or forgotten.

Regularly Rotate & Check: Every week, check your fridge/freezer and pantry for food that needs to be used soon. Use a "Eat Me First" bin in the fridge for items near expiry.

3.5. Portion Control

Serve appropriate portions to minimise plate waste. Use smaller plates if needed and encourage family members to take seconds only if they are still hungry. When cooking, measure ingredients to avoid making too much.

Know Standard Serving Sizes: Use visual cues (fist, palm, cupped hand) for easy estimating without a scale.

Meat: 1 serving = \~100 g / 3.5 oz (approximately the size of deck of cards)

Grains (rice, pasta): 1 serving = \~1/2 cup cooked

Veggies: 1 serving = 1 cup raw or 1/2 cup cooked

Table 1: Standard Adult Serving Sizes

Use a Portion Planner: Plan meals by number of people and appetite — adjust recipes to suit your household size.

Free online tools such as portion calculators or charts can help you scale recipes properly.

Serve Smaller Portions First: Start with smaller portions; let everyone take seconds only if they are still hungry. This reduces uneaten food left on plates (which usually cannot be saved).

Use Properly Sized Plates and Bowls: Large dinnerware encourages oversized portions. Use smaller plates and bowls to naturally encourage smaller, more appropriate servings.

Pre-portion Leftovers Immediately: After meals, portion leftovers into single-serve containers and refrigerate or freeze them. This makes them easier to grab and eat later — no waste, no guessing.

Batch Cook with a Plan: Batch cooking is great, but only if you:

- know you will eat the leftovers
- freeze portions for future use
- vary the meals (e.g., turn roasted vegetables into soup or wraps).

Freeze Extras in Individual Portions: Label meals with date and serving size. Store soups, stews, sauces, and meats in freezer bags laid flat (easy to stack, thaw, and portion).

Use a Leftovers Labelling System: Use a marker or labels to note name, date, and portion size. This helps avoid forgetting what is in the fridge or freezer.

Track What Goes Uneaten: Keep a simple log of leftovers or uneaten food. This helps identify meals where portions were too large and lets you adjust future cooking.

3.6. Reuse Your Leftovers

Reimagine Rather Than Reheat: Leftovers do not have to be eaten as-is. Instead, use them as ingredients for new meals. For instance, roasted vegetables can be blended into soups or mixed with grains for salads; rice can turn into fried rice; and stale bread can be used for croutons or breadcrumbs. Cooked pasta can become a pasta bake or frittata. Leftover meats can be turned into wraps, sandwiches, or stir-fries. Label leftovers with dates and use a first-in, first-out system in your fridge.

Build a Leftover Day: Designate one day each week to use up everything in your fridge. Mix and match ingredients to create unique meals or organise a buffet night with small portions of various dishes. This habit not only clears your fridge but also encourages experimentation and reduces waste.

Smart Storage for Better Use: Properly storing leftovers is crucial. Use clear containers to see what's inside and label them with the date. Store leftovers in the fridge if they will be used within a few days or freeze them for longer storage. Grouping similar items can also make meal planning easier.

Teach Kids to Love Leftovers: Get children involved in the kitchen by letting them create their own meals from leftovers. This promotes creativity, reduces fussiness, and teaches valuable life skills.

Restaurant-Style Presentation: Sometimes it is not the food but the presentation that makes it less appealing. Make your leftovers look appealing on the plate or add fresh garnishes to make meals more inviting.

By seeing leftovers as a resource rather than a burden, households can significantly cut food waste. It is about changing the mindset and valuing every bit of food we buy and prepare.

Incorporate Leftovers into New Recipes:

- Stale bread → breadcrumbs, French toast, bread gnocchi
- Overripe fruit → smoothies, muffins, jams, cakes, compote
- Cooked rice or quinoa → rice cakes, fried rice, stuffing, or grain bowls
- Grilled vegetables → pizza toppings, wraps, omelettes
- Leftover roast chicken → chicken salad, enchiladas, soup, or pasta

4. Reducing Food Waste – Tips for Businesses

Businesses — particularly those in food production, retail, hospitality, and catering — play a crucial role in the fight against food waste. Reducing waste not only improves environmental impact but also enhances operational efficiency and public image.

4.1. Food Waste Audit

Understand what types and quantities of food are wasted, when and why. Identifying key waste points helps prioritise interventions and set measurable goals. Many businesses discover that a significant portion of their waste is preventable.

How to conduct a food waste audit in a hospitality business (HoReCa)?

1. Define Objectives and Scope

Start by determining why you are conducting the audit and what you hope to achieve. Common goals include reducing disposal costs, improving inventory control, lowering environmental impact, and enhancing brand reputation.

2. Engage Key Stakeholders

A successful audit requires buy-in from staff across all levels. Inform and train kitchen staff, servers, cleaners, and procurement officers on the audit's purpose and process. Encourage

honest participation without assigning blame. Appoint a food waste coordinator or team to lead the initiative and maintain consistency throughout the audit period.

3. Categorise Types of Waste

To diagnose waste effectively, classify it into categories:

- Spoilage Waste: Items that expired or were improperly stored.
- Preparation Waste: Trimmings, overproduction, or errors during preparation.
- Plate Waste: Uneaten food left by customers or staff.
- Inventory Waste: Surplus stock that was never used or over-ordered.

Further segment waste by food type (e.g., produce, dairy, meat, bakery) for a granular view.

4. Choose a Data Collection Method

There are two primary methods:

- Manual Tracking: Staff log waste into spreadsheets or notebooks with details like type, weight, cause, and time.
- Various Software: Use specialised software (like Winnow, Leanpath or Kitro) that integrates with kitchen operations, often with visual recognition and weight sensors.

Regardless of method, record at least:

- date and time of disposal;
- food item and category;
- weight or volume;
- cause (e.g., spoilage, over-preparation, customer rejection).

Weigh waste whenever possible to provide accurate data.

5. Analyse and Identify Trends

Once data is collected, analyse it to uncover patterns such as:

- Are certain items consistently wasted?
- Does waste spike at particular times or shifts?
- Is overproduction or poor forecasting to blame?
- Are storage practices contributing to spoilage?

Use charts and heat maps to visualise trends and focus improvement efforts where they matter most.

6. Implement Changes Based on Insights

Translate audit findings into action:

- Adjust portion sizes to reduce plate waste.
- Improve inventory rotation using FIFO system (First In, First Out).
- Train staff on proper preparation and storage techniques.
- Revise ordering practices to align with actual demand.
- Introduce specials or flexible menus to use surplus ingredients.

Pilot changes in one location or team before scaling up across the business.

7. Monitor Progress and Repeat

Conduct regular audits (e.g., quarterly or biannually) to track progress, evaluate the impact of implemented changes, and identify new opportunities. Establish KPIs such as waste per

cover, cost of waste per week, or reduction percentage over time. Celebrate milestones and share results internally to maintain motivation and accountability.

8. Communicate and Celebrate Success

Use audit outcomes to tell a positive story to customers, investors, and staff. Highlight food waste reductions in sustainability reports or marketing campaigns. Transparency builds trust and positions the business as a responsible, forward-thinking player in the industry.

4.2. Improve Inventory Management

Improve Inventory Management: Use, ideally specialised, software to monitor stock levels and expiration dates. Implement a First-In, First-Out (FIFO) system to ensure older stock is used before newer deliveries. Avoid over-ordering by aligning purchases closely with demand forecasts.

Actions to improve inventory management:

- Analyse usage patterns: Review sales and usage reports regularly to identify overstocked or underused items. Adjust purchasing based on real demand trends, seasonality, or events. Stop ordering items that frequently go to waste.
- Use waste reporting capabilities (of specialised software): Encourage staff to log waste — what, how much, and why it was discarded. Analyse this data to identify patterns and take corrective action (e.g., supplier issues, over-prepping). Involve everyone from purchasing to preparation in reducing waste. Create a culture of mindfulness where food is valued as a resource, not disposable.

- Train Staff on Waste Prevention: Educate kitchen, service, and purchasing staff on the importance of food waste reduction. Training should include portion control, best storage practices, and creative uses for surplus or imperfect ingredients. Encourage a culture of mindfulness and accountability.

4.3. Optimise Portion Sizes

Serve customizable portions or offer smaller plate options. In hospitality settings, oversized servings often lead to plate waste. Give customers the choice and encourage takeaway options for unfinished meals.

How to achieve portion size optimisation?

1. Flexible Portion Sizes for Customers

One of the most impactful initiatives involves offering customers the ability to choose their portion size. This can be implemented through:

- small/medium/large options on menus, particularly for side dishes, rice, pasta, or meat portions;
- half-size meals for children, seniors, or those with smaller appetites;
- tasting portions or small plates, which allow customers to sample without committing to full servings.

2. Menu Engineering and Redesign

Menus can be subtly redesigned to encourage appropriate portion choices. This includes:

- highlighting smaller portions as healthy or budget-friendly options;
- using attractive language and pricing to promote moderate portions;

- offering *build-your-own* meal formats where customers select portion sizes and components, giving them control and reducing plate waste;
- analysis of sales data and plate return data to determine which items consistently lead to waste and adjust portion sizes accordingly.

3. Using Visual Cues and Plate Sizes

Psychological research shows that people eat more when served on larger plates. As a response, some institutions — especially schools, buffets, and cafeterias — have begun using smaller plates and serving utensils and containers to nudge appropriate consumption. This strategy helps reduce automatic over-serving and waste without making the portion feel insufficient to the customer.

4. Monitoring and Adjusting Based on Feedback

Portion control is not a one-size-fits-all approach. Leading initiatives monitor portion-related waste and adjust based on:

- plate return observations;
- customer satisfaction surveys;
- waste leftover quantities by dish.

For example, a school cafeteria might find that reducing the standard serving of mashed potatoes by 30% leads to less waste with no drop in student satisfaction.

5. Technology for Portion Analytics

Several examples of specialised software and smart kitchen systems (e.g., Leanpath, Winnow, Kitro) help businesses track food usage and waste.

6. Reuse and Repurpose Ingredients:

Design menus that incorporate ingredients across multiple dishes to reduce surplus. For example, leftover bread can become croutons or breadcrumbs, and vegetable trimmings can be used in broths or sauces.

7. Donate Surplus Food

Partner with food banks, charities, or social supermarkets to donate safe, edible food. Ensure proper labelling and storage for safety and compliance.

8. Compost and Recycle

Where food waste is unavoidable, invest in composting or anaerobic digestion. Collaborate with local waste management services to turn scraps into energy or fertiliser, reducing landfill contributions.

5. Reducing Food Waste – Tips for Governments

Governments play a critical role in creating the conditions that enable widespread food waste reduction. Through legislation, infrastructure, education, and collaboration, national, regional, and local authorities can drive meaningful change and support both businesses and households.

Below are strategic tips for governments across the EU to effectively reduce food waste.

a) Set National Food Waste Reduction Targets

Establishing clear, measurable goals aligned with the UN Sustainable Development Goal 12.3 — to halve per capita food waste by 2030 — sends a strong signal of commitment. Targets should be accompanied by timelines, monitoring frameworks, and regular progress assessments.

b) Support Comprehensive Data Collection

Reliable data is the foundation of effective policy. Governments should invest in national food waste tracking systems across the supply chain — from farm to fork. Harmonised data allows for better policy design, comparison across regions, and identification of high-impact intervention points.

c) Launch Public Awareness Campaigns

Government-sponsored campaigns like Love Food Hate Waste in the UK or the Netherlands' Waste-Free Week demonstrate the power of mass communication in shaping behaviour. These campaigns should use diverse channels (TV, social media, schools) and focus on relatable, practical messages.

d) Reform Food Date Labelling Regulations

Clarifying *best-before* and *use-by* labels at the EU level can prevent unnecessary food disposal. Governments should work with the European Commission and food producers to improve labelling standards and educate the public about their meaning.

e) Incentivise Food Donations

Legislate or amend tax laws to encourage businesses to donate surplus food. Italy's Gadda Law is a successful model, providing tax incentives and simplifying bureaucracy around food redistribution. Clear liability protections for donors also boost participation.

f) Promote Circular Food Systems

Encourage the development of systems that keep food waste out of landfills. This includes funding composting and anaerobic digestion infrastructure, supporting local food rescue initiatives, and connecting waste generators with waste processors or bioenergy producers.

g) Integrate Food Waste Education into Kindergartens and Schools

Curriculum reforms that include lessons on sustainability, food systems, and waste prevention from a young age foster long-term cultural change. Practical activities like school gardens and composting programmes can reinforce these lessons.

h) Enable Municipal Leadership

Local governments are well-placed to lead community-based initiatives. Provide grants and technical support for cities to develop zero-waste strategies, community fridges, or food-sharing programmes. Encourage municipalities to partner with NGOs and businesses.

i) Create Multi-Stakeholder Platforms

Bring together actors from across the food chain — including producers, retailers, civil society, and consumers — to share knowledge and coordinate action. National food waste platforms can align interests and catalyse collaborative projects.

j) Support Research and Innovation

Invest in R&D focused on improving shelf life, developing waste-reducing technologies, or repurposing food byproducts. Foster innovation hubs and public-private partnerships to pilot new approaches and scale up successful models.

k) Harmonise Policies Across the EU

Advocate for EU-level coordination on food waste definitions, reporting standards, and action plans. Cross-border cooperation ensures consistency and maximises impact, especially for multinational food businesses.

l) Align Public Procurement with Waste Reduction Goals

Use government purchasing power to lead by example. Implement food waste reduction standards in schools, hospitals, and other public institutions.

By implementing these strategies, governments can create an enabling environment where food waste reduction becomes standard practice across society. Effective governance, combined with civic engagement and private sector participation, is essential to achieving lasting results.

How to Align Public Procurement with Food Waste Reduction Goals?

1. Integrate Food Waste Reduction Criteria into Procurement Policies

- Setting clear waste reduction targets — require suppliers to demonstrate plans or results related to minimizing food waste in their production, distribution, or service.
- Specifying portion size standards — for catering contracts, mandate appropriate portion control and offer options for smaller portions.
- Requiring surplus food management — demand that caterers and suppliers have procedures for donating surplus food or recycling unavoidable waste (e.g., composting or bioenergy).
- Incorporating sustainability certifications — prioritise suppliers with certifications or commitments to sustainable practices, including food waste minimisation.

2. Prioritise Seasonal, Local, and Less-Processed Foods

Procurement guidelines that favour seasonal and locally sourced foods often contribute to waste reduction, since these products generally require less preservation, have shorter supply chains, and are fresher on arrival — factors that reduce spoilage risk. Similarly,

purchasing less processed or whole foods can provide more flexibility in preparation and use of byproducts.

This approach also supports local economies and reduces carbon footprints, creating a win-win scenario, primarily in terms of sustainability.

3. Promote Flexible and Demand-Driven Ordering

Governments can encourage or require suppliers to adopt flexible ordering and delivery schedules that respond to actual demand rather than fixed volumes. This reduces overstocking and spoilage. For example:

- Shorter lead times and just-in-time delivery systems.
- Use of digital ordering platforms with real-time inventory updates.
- Collaboration between procurement officers and suppliers to adjust quantities based on historical consumption patterns and seasonal variability.

4. Foster Capacity Building and Training

Implementing food waste reduction in procurement requires that procurement officers and food service managers have the right knowledge and software. Governments can provide:

- training on sustainable procurement principles;
- guidance documents and checklists on waste reduction;
- workshops or forums to share best practices and success stories.

This capacity building helps institutionalise waste-conscious decision-making.

5. Monitor, Report, and Benchmark

Transparency is key. Governments can require public institutions to monitor and report food waste volumes and procurement practices. Establishing benchmarks and publicizing results fosters accountability and continuous improvement.

For example, a school district might report on how much food waste is generated monthly and correlate that data with procurement changes (e.g., introduction of smaller portion sizes or surplus food donation programmes).

6. Facilitate Food Donation and Redistribution

Public procurement contracts can include provisions that facilitate the safe donation of surplus food. Governments can provide legal frameworks and liability protections to suppliers and food service operators, reducing fears about donating edible surplus. Incentives for caterers who demonstrate waste reductions can be established.

6. Success Stories and Initiatives from Across the European Union

Inspiring initiatives across the European Union are demonstrating that food waste can be significantly reduced through creative and collaborative efforts. These stories not only provide models to emulate but also highlight the diversity of approaches suitable for different contexts.

France – *Too Good To Go*: This innovative app connects consumers with restaurants, bakeries, and grocery stores that have unsold food nearing the end of its shelf life. Customers can purchase these magic bags at a discounted rate, thus preventing the food from going to waste. It helps both consumers and retailers reduce waste while offering a sustainable alternative to disposal. *Too Good To Go* began in Denmark but has gained substantial traction in France, where it aligns with national legislation encouraging food donation. The app now serves millions of users and is expanding across the EU. It is available in 16 European countries and continues to grow.

Denmark – *Stop Wasting Food* (*Stop Spild Af Mad*): Founded by activist Selina Juul, this movement has significantly influenced Danish food culture. The initiative works with retailers, policymakers, and consumers to promote awareness and behaviour change. Denmark has seen a 25% reduction in food waste since the campaign's inception, proving the power of grassroots advocacy combined with strategic partnerships.

Spain – *Espigoladors*: This social enterprise recovers surplus produce that would otherwise go to waste due to cosmetic imperfections. Volunteers glean fruits and vegetables from farms, which are then distributed or processed into jams and sauces under the brand *Es Im-Perfect*. The model not only reduces food waste but also provides employment opportunities for vulnerable populations.

Germany – *Foodsharing.de*: A digital platform where individuals and businesses can offer and collect surplus food for free. The initiative relies on a network of food savers who rescue food from stores and share it through public Fairteiler (distribution points). It fosters a sharing economy and builds community resilience against waste.

Netherlands – *Waste-Free Week* (*Verspillingsvrije Week*): This annual campaign raises awareness about food waste through daily challenges, social media engagement, and community events. Organised by the Dutch Foundation *Together Against Food Waste*, it mobilises citizens, schools, and companies to take tangible actions.

These stories illustrate that change is possible and happening. Whether through technology, policy, community action, or education, each initiative contributes to a broader cultural shift. By drawing inspiration from these efforts, individuals can adopt or adapt similar practices in their own lives.

In the digital age, numerous software and apps have emerged to help individuals better manage their food, reduce waste, and save money. These resources offer practical solutions to everyday challenges such as tracking expiration dates, planning meals and sharing surplus food.

United Kingdom – *OLIO*: *OLIO* is a food-sharing app where users can list surplus food for others in their community to collect for free. Whether it is groceries someone will not use or leftovers from a party, *OLIO* helps connect neighbours and reduce waste. It promotes a culture of sharing and prevents edible food from being thrown away.

United Kingdom – *Kitche*: *Kitche* helps users manage what they have at home by scanning receipts and tracking items in their pantry or fridge. The app suggests recipes based on

available ingredients and sends reminders before items expire. It's a handy software for mindful shopping and smarter storage.

Denmark – *NoWaste*: This app allows users to track the expiry dates of food items, manage grocery lists, and reduce food waste through smart inventory management. It provides insights into your food habits and waste trends, encouraging behavioural change.

United Kingdom – *Love Food Hate Waste*: While primarily UK-based, the website and app offer universally relevant functionalities, such as meal planners, portion calculators, and recipe ideas for leftovers. Its educational content can inspire users across the EU.

United Kingdom – *FridgeCam* by Smarter: A physical device paired with an app, *FridgeCam* lets you see what is inside your fridge remotely, reducing duplicate purchases and enabling better planning. It sends expiry notifications and suggests recipes accordingly.

These examples of specialised software cater to various needs and lifestyles, making it easier than ever to reduce food waste. By leveraging technology, individuals can gain greater control over their food habits, develop better routines, and contribute to a more sustainable future. Whether you prefer digital apps, community platforms, or physical tools, the key is to find what works for you and make it part of your daily life. With the right resources and a proactive mindset, anyone can become more efficient and mindful in their food consumption.

7. Success Stories and Initiatives from Croatia

Croatia has made significant progress in tackling food waste, aligning its efforts with the EU and UN Sustainable Development Goal 12.3 to halve per capita food waste at the retail and consumer levels by 2030. The country's approach is comprehensive, involving government action, sector-specific guidelines, public awareness campaigns, and innovative solutions. Over the past several years, the Croatian Ministry of Agriculture has launched a comprehensive set of activities aimed at reducing food waste and strengthening food donation practices. These initiatives showcase how a country of modest size can develop a relatively coherent system that addresses food waste at all levels of the chain — from production and retail to households — while ensuring that surplus food reaches those in need.

Key Strategies and Measures:

1. The National Plan for Preventing and Reducing Food Waste for the period 2023–2028, adopted by the Government of the Republic of Croatia in December 2022.

The Plan was prepared pursuant to the Agricultural Act and represents the continuation of work initiated in the earlier Food Waste Prevention Plan for 2019–2022. It is fully aligned with the European Union's Circular Economy Action Plan and with Sustainable Development Goal 12.3, which calls for halving per capita food waste by 2030 and reducing food losses across supply chains. The National Plan outlines several lines of action: the development of an efficient system for food donation; the promotion of corporate responsibility within the food industry; the introduction of food waste measurement systems across sectors; the inclusion of food waste topics into formal and informal education; the investment in research and

innovation; and the raising of consumer awareness through targeted campaigns. Together, these measures aim to create a cultural shift, making food waste reduction a shared responsibility across society.

2. Food Donation System

Croatia has developed a transparent regulatory framework for food donation, which is a crucial mechanism for redirecting surplus food toward donations. According to the Ordinance on Food and Feed Donation, only entities registered in the official "Register of Intermediaries may serve as facilitators of food donation. This ensures that donation practices are carried out in accordance with food safety standards and with proper oversight. NGOs and other eligible entities can apply to be entered into the Register when they meet two main conditions: they must be legally registered in Croatia and must operate facilities that are themselves registered in the official registry of food business premises. The registration process requires the submission of an application form and supporting documentation, after which the Ministry issues a formal decision on entry into the Register. This procedure creates accountability in the food donation system. To support intermediaries, the Ministry has published a "*Guide for Food Donation* and other guides that detail how food donation should operate in practice. The guides clarify legal obligations, documentation requirements, and reporting duties while also offering practical advice for day-to-day operations. The guides also address sensitive issues such as how to handle donations past their *best-before* date, clarifying that such donations are permissible provided that the food is safe, and recipients are informed and consent to receiving it. The guides stress that donations must be used exclusively for humanitarian purposes and not for commercial gain. Intermediaries are granted the discretion to refuse donations if they

cannot guarantee food safety, reinforcing the principle that donations should never compromise public health. To make the process more efficient, the Ministry has launched a digital platform known as *e-doniranje*, which allows donors to register surplus food and intermediaries to quickly identify and collect donations. This tool improves coordination between stakeholders, reduces administrative burdens, and helps ensure that food reaches recipients on time.

3. Voluntary Agreements

Recognizing that government action alone cannot achieve the ambitious goals set in the national plan, the Ministry facilitated the signing of a voluntary agreement titled *Zajedno protiv otpada od hrane* (*Together Against Food Waste*) in March 2023. 33 stakeholders from across the food system, including producers, retailers, municipalities, civil society organisations, and academic institutions, signed the agreement, committing to implement concrete measures for reducing food waste and increasing food donation within their respective sectors. This voluntary approach builds a culture of shared responsibility and mutual accountability, allowing the private sector and civil society to take ownership of the agenda while receiving recognition for their contributions. The agreement also links national initiatives to the reforms contained in the National Recovery and Resilience Plan, providing additional policy coherence and continuity. The report on the success of the Agreement implementation, prepared on the basis of the submitted Progress Reports of the signatories, is publicly available.

4. Digital Platforms and Knowledge Exchange

The Ministry of Agriculture launched an online platform for sharing best practices and experiences among stakeholders. The Waste Prevention Portal provides information,

examples, and updates on waste prevention activities. Public engagement has been recognised as a particularly critical dimension of the strategy, given that studies consistently show that households generate a significant share of food waste.

For this reason, the Ministry of Agriculture launched a nationwide awareness campaign under the slogan *Pojedi, podijeli. Hrana nije otpad* ("*Eat, share. Food is not waste*"). Central to this campaign is an animated video featuring a child named Dora, who serves as the voice of the younger generation and delivers simple, memorable advice for reducing food waste at home. By placing a child at the centre of the campaign, the Ministry sought to appeal emotionally to families and encourage intergenerational responsibility. The campaign materials highlight practical steps such as better meal planning, cookbooks, proper food storage, and the donation of surplus food. In addition, the campaign links the individual household actions to the national and global objective of halving food waste by 2030, thereby helping citizens see their personal role within a larger sustainability framework. Education and capacity-building initiatives complement the media campaign. Informational and educational materials have been developed both for children and for adults, ensuring that awareness-raising extends beyond advertising into formal learning environments. Schools have been identified as important partners in transmitting values of sustainable consumption to the next generation, and teaching resources have been produced to help educators address the topic in the classroom. The Ministry also regularly marks international events such as the Food Loss and Waste Awareness Day with public outreach activities, ensuring that the issue remains visible and relevant.

Besides diverse and innovative approaches to food waste reduction on the national level, selected local and national exemplary practices from the public, private, and NGO sectors include:

1. Buffet-Style Self-Service in Schools

- Schools such as Osnovna škola Viktora Cara Emina in Lovran serve food buffet-style, allowing children to choose their servings. This approach significantly reduces plate waste compared to standardised portions, achieving minimal food waste with low implementation costs and high replicability in canteens and similar settings.

2. Food producers' engagement

- Initiative *Hrana se ne baca* (*Food is Not Thrown Away*) was started by Dukat d.d., a leading Croatian dairy company headquartered in Zagreb, founded in 1912. It is well known for its wide range of high-quality dairy products, including milk, yogurt, and cheese. Their initiative focuses on public campaigns, research, and the creation of food donation networks. In 2015, Dukat launched a systematic food donation program. Since then, the company has donated a total of 2,163 tonnes of dairy products — 170.4 tonnes in 2024 alone. With its regular donation programme in 2024, Dukat has provided 1.31 million milk meals for 58,500 children and citizens living in poverty, from Vukovar to Dubrovnik. With this, Dukat has become of the largest food donors in the Croatian food production industry and has held this position for many years. Dukat d.d. is a signatory of the Voluntary Agreement on the Prevention and Reduction of Food Waste *Together Against Food Waste*, which is implemented within the framework of the National Plan for Preventing and Reducing Food Waste for the period 2023–2028. Dukat also contributes to reducing food waste by allowing sales of its products in six food discount stores in Croatia (three in Zagreb, and one each in Osijek, Slavonski Brod,

and Bjelovar). In all discount stores, citizens can find about three hundred products at 20-25%reduced prices. The range of products with a shorter shelf life has been further reduced and, in addition to the discount price, the expiration date is clearly highlighted on these products. Thus, Dukat additionally encourages the purchase and consumption of products that are approaching the expiration date while remaining safe for consumption. Additionally, the prices of these products decrease proportionally to their expiration date.

4. Legal and Fiscal Incentives for Food Donation

- *Free Donated Food from VAT* (*Oslobodimo doniranu hranu PDV-a*) campaign successfully advocated for VAT exemption on food donations in 2015, removing a major barrier to food redistribution and supporting social supermarkets and soup kitchens.

5. Retail and Supply Chain Optimisation

- Retailers like Kaufland implement automated ordering, optimised baking schedules, improved pallet stacking, and food donation partnerships to minimise waste at the store level. Kaufland was awarded the *Best Donor* award, which is presented by the Croatian Member of the European Parliament, Biljana Borzan, in the category of large companies that donated the largest amount of food as a percentage of total revenue in 2022. Kaufland started engaging with food waste reduction and donation in 2016 when employees of Kaufland stores throughout Croatia separated products approaching their expiration date every week and sent them to the logistics and distribution centre, where Caritas Zagreb took them over and further distributed them to users of soup kitchens, households, and other users in its area. The collaboration with Caritas only grew over the years, expanding also to the Red Cross. Since June 2021, Kaufland has been donating products nearing their expiration date locally — directly to intermediary organisations that collect donations as

needed, often twice a week. With this optimisation of the donation process, Kaufland managed to donate twice as many bakery products in 2021 compared to 2020, and three times more fruits and vegetables. Over a period of six years, from 2019 to 2024, Kaufland donated 1,342,614 kilograms of fruits and vegetables, 385,523 food products, and 911,841 bakery products. Kaufland signed the abovementioned Voluntary Agreement on the Prevention and Reduction of Food Waste *Together Against Food Waste*.

6. Digital Platforms for Food Donation

- The Ministry of Agriculture's *e-donation* (*e-doniranje*) platform streamlines connections between food donors and intermediaries, making the redistribution of surplus food faster and more efficient. This IT system is an online platform that was created with the aim of a simpler and faster connection between food donors and intermediaries in the food donation chain. By improving communication among the stakeholders in the food donation system, the redistribution of surplus food to those in need has become simpler and more effective — an initiative that is important primarily for humanitarian reasons, but also has positive economic, social, and environmental impacts. Any food-related business entity that wants to donate food or acts as an intermediary in the food donation chain can register with the Ministry of Agriculture and join the online platform.

8. Food Waste Valorisation and Technology

- Companies like DS Smith Belišće and Biodiesel Global Food (McDonald's Croatia) convert organic and used cooking oil waste into energy, heat, biodiesel and glycerine, demonstrating large-scale industrial upcycling.
- Zelene Tehnologije Ltd has introduced devices that rapidly convert food waste into valuable raw materials, supporting both companies and households.

9. Certification and Standardisation

- Bureau Veritas Croatia developed a non-accredited certification standard for systematic management and prevention of food loss and waste, offering a replicable model for businesses.

10. Awarding the Largest Food Donors

- The *Best Donor* is an annual recognition that is awarded yearly to the companies that have donated the most food in Croatia, across various sectors and categories. The organisers are MEP Biljana Borzan and the Food Network platform. The purpose of the project is to reward the socially responsible businesses in Croatia, as many of them help thousands of people with their food donations. An indirect goal of the project is to encourage public debate on the issue of food donation and food waste. The first *Best Donor* award ceremony for was held on 21 May 2018 at the European Parliament. In the category of food producers, Dukat d.d. was awarded, while in the category of retailers, Konzum d.d. received the award. For seven consecutive years (up to 2025), Konzum has been awarded the title of *Best Donor* in the category of large companies for achieving the highest total annual value of food donations. This prestigious recognition highlights the company's long-standing commitment to responsible business practices and community care, making Konzum the only company in Croatia to have received this title every year since the award's inception.

8. Success Stories and Initiatives from Italy

Italy faces significant challenges with food waste but has developed effective solutions rooted in its strong culture of food appreciation and community. Recent efforts combine legislation, local initiatives, technology, and awareness campaigns to reduce waste across the food system and promote sustainability. Below are some of the latest Italian best practices in this area.

Key Strategies and Measures

• Comprehensive Legislative Framework

Italy enacted Law No. 166/2016 (the Gadda Law), which simplifies food donation by reducing bureaucratic barriers, extending shelf-life recognition, and allowing food redistribution even past the *best-before* date if safety is ensured. It also introduced incentives such as reduced waste disposal fees for donors.

• National Network of Food Banks

Banco Alimentare operates across Italy to recover food from producers and retailers, distributing it through a wide network of charities. It integrates logistics and technology for high efficiency. Programmes such as SITICIBO focus on recovering surplus cooked meals from canteens, restaurants, and catering services, emphasising logistics and hygiene standards to reduce prepared food waste.

• Educational Integration

Food waste awareness is embedded in schools through initiatives like the *SprecoZero Scuole* programme, which combines curriculum content with practical, student-led waste audits and reduction activities.

• Digital Platforms and Apps

Italy has adopted several digital innovations. The *BringTheFood* platform, developed by the Bruno Kessler Foundation, connects food donors with charities in real time. Similarly, apps like *Too Good To Go* and *OLIO* are widely used to redistribute surplus food from restaurants and shops.

We could also reference other platforms or apps, such as:

Regusto —Digital Donation and Procurement Platform

Regusto is a digital platform that enables surplus food management and donation tracking through blockchain-based traceability. Municipalities, companies and NGOs use it to donate or redistribute excess food efficiently while ensuring transparency and impact measurement.

Cucinalo App —Food Recovery and Recipes

This app helps consumers and retailers use surplus or expiring ingredients by offering tailored recipes and zero-waste cooking tips. It promotes behavioural change through gamification and partnerships with supermarkets and food services.

Sprecometro — Bologna Pilot

Sprecometro is an app developed by Waste Watcher International Observatory that lets users estimate household food waste and its environmental cost. The city of Bologna integrated this tool into its local food policies.

• Retail and Supply Chain Optimisation

Supermarkets such as Coop and Carrefour Italy implement real time inventory tracking, dynamic pricing for near-expiry goods, and partnerships for unsold food donation. Social enterprises such as Last Minute Market, originating from the University of Bologna, connect businesses with surplus food to non-profits, emphasising traceability and replicability.

• Valorisation of Food Waste

Companies and institutions transform food waste into valuable resources such as energy, animal feed or compost. Initiatives like Milan's Urban Food Policy Pact and regional biogas projects redirect organic waste towards sustainable, circular uses. In industrial kitchens, programmes such as the Elior-Winnow Project leverage AI-enabled smart bins to track and analyse food waste in real time, achieving reductions of up to 50% and enhancing operational efficiency.

• Behavioural and Cultural Campaigns

National campaigns like Turismo Verde-CIA *Doggy Bags* promote food take-home practices in agritourism, raising awareness of food citizenship and the sustainability of short supply chains and direct sales.

• City-Level Innovation and Replication

Milan's *Zero Waste Hubs* collect surplus market food and redistribute it to charities — a model now replicated in other cities. Bologna's pilot projects, including *Sprecometro* and *Last-Minute Market* initiatives, serve as regional examples of combining technology, policy, and community engagement.

Success stories from Abruzzo

1. Slow Food Abruzzo – Reducing Food Waste through Local Food Culture

Slow Food Abruzzo is a regional branch of *Slow Food*, an Italian international movement dedicated to promoting good, clean, and fair food by supporting sustainable agriculture, biodiversity, and local food traditions.

The organisation works to preserve culinary heritage, encourage responsible consumption, and foster a more ethical and environmentally friendly food system.

Slow Food Abruzzo has promoted various initiatives to reduce food waste. Among its key activities directly or indirectly contributing to waste reduction are the *Slow Food Presidia which*:

- support and protect traditional local products at risk of disappearing, promoting conscious consumption, sustainable agriculture, fair markets for producers, and local food culture.

- help preserve native breeds, traditional crops, and artisanal food practices, ensuring biodiversity and responsible consumption.

Presidia contribute to food waste reduction by:

- ❖ encouraging conscious consumption of high-quality, local products;
- ❖ supporting short supply chains, reducing transport and storage waste;
- ❖ promoting full product utilisation, minimizing production and consumption waste;
- ❖ preserving ancient crop varieties, enhancing resilience to climate change and reducing dependency on commercial crops prone to waste.

In Abruzzo, we count 18 Presidia.

2. The association *Spazi di prossimità* and the *Emporio della Solidarietà*

The *Spazi di Prossimità ODV* association is actively engaged in Pescara in the fight against food waste. It provides essential support to the community by distributing food, clothing, personal and household hygiene products, and school supplies. The association's board, assisted by a team of volunteers, is specifically responsible for managing the *Emporio della Solidarietà (Solidarity Emporium)* "Papa Francesco."

The *Emporio della Solidarietà* in Pescara is a social initiative promoted by Diocesan Caritas in collaboration with *Banco Alimentare* and the local municipality to support families facing economic hardship.

Functioning like a solidarity supermarket, it allows beneficiaries, identified by social services, to access food and essential goods free of charge through a points-based card system. The initiative plays a dual role: reducing food waste by recovering unsold or near-expiry products and promoting responsible and conscious consumption within the community.

3. *Dona 10 pasti, basta 1 euro* – Don Basilico Pizzeria & Banco Alimentare

The initiative *DONA 10 PASTI, BASTA 1 EURO* (*DONATE 10 MEALS, 1 EURO IS ENOUGH*), promoted by Don Basilico pizzeria in collaboration with the Banco Alimentare of Abruzzo, aims to combat food waste and support people in need. Running for one month (December 2024), the initiative allowed customers to donate just 1 euro when purchasing a pizza, directly contributing to providing meals across the Abruzzo region.

4. *Nutrire il Futuro Project – Food Education and Promotion of Local Products* (October 2024)

Nutrire il Futuro is a project by CIA Chieti-Pescara aimed at promoting well-being through food education and the valorisation of the Abruzzo region. Its goal is to encourage healthy and sustainable lifestyles among younger generations, raising awareness among students and families about the importance of local agri-food products and the cultural heritage linked to agriculture.

The project involves schools, farms, and farmers' markets, engaging around 500 participants (students and the general public) and 60 agricultural enterprises from the *Consorzio "Mercato Contadino La Spesa in Campagna"*.

Core actions:

a. Food education workshops in schools.

b. Guided visits to farmers' markets and farms to understand local production and sales.

c. Creation of promotional materials and educational videos to spread awareness of Abruzzo's agri-food culture.

An innovative aspect is the use of digital communication — including videos, social media content, a dedicated website, a Linktree platform, and a periodic newsletter — combined with public events and collaborations with local media to ensure broad outreach and direct engagement with the territory and consumers.

5. *Green Food Week – Planet-Friendly Food* in University Canteens of L'Aquila (April 2025)

Held from 7 to 11 April, 2025, this event focused on sustainable food choices in university canteens managed by the Agency for the Right to University Education and the University of L'Aquila. The initiative promoted sustainable menus focused on plant-based and local organic ingredients designed to reduce food waste, limit animal protein use, and raise awareness about sustainable eating habits. A key event during the week featured a show-cooking emphasising the *3 Rs: Reduce, Reuse, Recycle* to encourage less food waste. The week aimed to promote healthier and more sustainable food consumption while actively seeking to minimise waste in collective dining settings.

Success stories from Apulia

1. *Il giusto è meglio. Per te, per l'ambiente, per la Puglia*

The campaign by the Department of the Environment, in collaboration with the Institutional Communication Office of the Puglia Region, aims to address the issue of food waste in a positive light — not just as something good, but also as something right. The approach is not purely informative, but instead offers an original analogy linked to the concept of lifestyle: those daily habits and behaviours that have a significant impact on quality of life and wellbeing. A dedicated section featuring content, tips, and in-depth information will be available on the official website: https://regione.puglia.it/web/ambiente/lotta-allo-spreco-alimentare

The campaign will also include practical advice and creative suggestions on how to:

· plan grocery shopping by making lists and buying only what is needed;

· store food properly to extend its shelf life and reduce waste;

· repurpose leftovers by preparing tasty and original dishes;

· choose seasonal products to support local farming and reduce environmental impact.

2. Puglia Regional support to the National Campaign *BIS!* for the promotion of the use of food bags

The Apulia Region, as part of the *Il giusto è meglio* (*The Right Choice is Better*) campaign, has also joined the national initiative *BIS!* — promoted by ANCI and funded by the Ministry of Ecological Transition (MITE) — which brings together institutions, local communities, and citizens to promote a more sustainable and responsible lifestyle. The initiative encourages the use of so-called "food bags" or shopping bags in restaurants to help reduce food waste. From 9 December 2024 to 5 February 2025 (the National Food Waste Prevention Day), the Region has implemented actions aimed at:

- education, communication, and raising awareness of local environmental commitment;

- concrete support to restaurants through promotional tools and informational materials;
- a visible, recognisable symbol (artisan shopping bags) that makes the fight against food waste immediately tangible in everyday choices.

Its main objectives include:

- promoting the value of food — encouraging restaurateurs and customers to recognise the vulnerability of the resources used throughout the food supply chain, from production to consumption;
- encouraging the use of shopping bags — inviting commercial dining establishments to adopt containers that allow customers to take home leftover food ("food bags" or "family bags"). Thanks to the use of these shopping bags and in-house communications, the goal is to normalise the practice of finishing a meal by taking leftovers home;
- active communication — providing restaurants with communication kits (posters, banners, video clips, radio spots) to raise customer awareness and encourage them to request a food bag spontaneously and naturally. Participating establishments become active ambassadors, helping to shift habits in favour of resource and environmental respect;
- integration into the regional campaign *Il giusto è meglio*. The initiative complements other areas of the campaign, such as meal planning, proper food storage and seasonal product selection, creating a broader impact on citizens' behavior.

Distribution of anti-waste themed eco-friendly bags:

Included within the campaign, the artisan-made shopping bags — crafted by hand using recovered kitchen towels through local partnerships (e.g., Pazlab, Daf Design) — serve a dual purpose: both symbolic and educational. These bags are distributed among participating

restaurateurs to make the commitment against waste visible and to spread the message among consumers.

3. *IO SPRECO ZERO! / Spreco Zero Puglia*

Io Spreco Zero is a campaign and project aimed at reducing food waste and, more broadly, promoting sustainability, with a particular focus on preventing food waste. The campaign was launched in Italy in 2010 and is promoted by Last Minute Market and the University of Bologna.

Spreco Zero Puglia is a regional initiative within this broader campaign, involving the Puglia region and its communities in combating waste through Puglia's commitment to the *Spreco Zero* movement. It includes specific initiatives tailored to the region, aimed at reducing food, water, and energy waste.

The goals of this initiative can be summarised as follows:

· waste reduction — the main objective is to reduce food waste, both at the retail level and in consumers' homes;

· sustainability — the campaign seeks to promote sustainable practices in various areas, from resource management to reducing energy waste;

· awareness-raising — the aim is to increase awareness among citizens, businesses, and institutions about the importance of reducing waste and adopting more responsible behaviours.

Some of the various actions promoted include:

· Recovery of Food and Medicines: The *Spreco Zero Taranto* project, for example, focuses on recovering medicines, food supplies, and cooked meals for redistribution to people in need.

· Community Involvement: In Monopoli, supermarkets, grocery stores, and cafés were invited to sign a voluntary Collaboration Agreement. The agreement provides for the donation of surplus food to the Collection, Storage and Distribution Centre managed by Caritas Diocese of Monopoli-Conversano and the Unitalsi Association (Monopoli branch) for use in the community kitchen. Additionally, it encourages the application of discounts on products nearing their expiration date or on fresh items that would otherwise be discarded at the end of the day.

· National Food Waste Prevention Day: the *Spreco Zero* campaign also promotes the National Day for the Prevention of Food Waste, which is celebrated every year on 5 February.

4. Il Banco Alimentare della Daunia "F. Vassalli"

The Banco Alimentare della Daunia is part of the network of the Fondazione Banco Alimentare, the national non-profit organisation (ONLUS) active in 21 regions of Italy. Operating since 2009 and based in Foggia, it covers the entire provincial territory and supports around 24,000 people in need through a network of over 130 affiliated charitable organisations (www.bancoalimentare.it).

It operates year-round through initiatives such as the *Colletta Alimentare* (the *National Food Collection Day*), involving over 75 supermarkets and more than 1,000 volunteers in the province alone. In 2024, it assisted 23,592 people, distributing over 959 tonnes of food, of which around 410 tonnes were recovered from surplus.

Its commitment to recovering and redistributing still-edible food, preventing food waste, and promoting mindful consumption among institutions, businesses, and citizens represents an important example of best practices in food waste reduction.

Thanks to an effective network of volunteers, partners, and charitable organisations, it also stands as a concrete example of solidarity, sustainability and active community engagement, carried out by a non-governmental organisation (NGO).

5. RiCibiamo 2.0

RiCibiamo 2.0 is a successful local best practice, funded with €50,000 by the Apulia Region to recover products from the food supply chain and distribute them free of charge to people living in poverty. It combines:

· solidarity — recovery of food and medicines for those in need;

· sustainability — fighting waste and promoting responsible consumption;

· innovation — use of digital tools to coordinate donations;

· active community engagement — involving citizens, schools, parishes, and volunteers.

Since 2015, an average of 50 meals per day have been recovered from school canteens and distributed to people in need, including through home delivery.

In 2023–2024, the new 2.0 version expanded the project to include the recovery of medicines and intensified local initiatives.

The main objectives of *Ricibiamo 2.0*:

· Recovery and redistribution of surplus:

a) daily collection of unsold food along the entire supply chain (school canteens, bakeries, large retailers, private donors) to redistribute it free of charge to low-income individuals;

b) extending the recovery to include medicines through partnerships with pharmacies, which will host donation containers and involve volunteer pharmacists.

· Creation of a local solidarity network:

coordination among municipalities, associations (e.g., Aps Civitas Mariae), and parishes to structure an integrated collection and distribution system.

· Awareness-raising and promotion of sustainable behaviours:

a) educational initiatives in schools, public events such as anti-waste cooking competitions, concerts and workshops using recovered ingredients;

b) communication campaigns to promote a culture of responsibility, moderation and solidarity.

· Digital innovation:

a web platform (and an upcoming mobile app) for citizens and shopkeepers to report and manage surplus food, simplifying volunteer coordination.

Success stories from Veneto

1. *Empori Solidali* – Community Solidarity Supermarkets

Veneto hosts a regional network of *Empori Solidali* (Solidarity Emporiums), coordinated mainly by Caritas and local associations. These act as supermarkets where people in economic hardship can access food and essential products free of charge through a points-based card system. Many of these emporiums — including those in Verona, Treviso, and Vicenza — recover unsold goods from large-scale retailers, local markets, and food industries, thus preventing waste while promoting social inclusion. Beyond distribution, they also provide educational workshops on food management, cooking with leftovers, and sustainable consumption.

2. Banco Alimentare Veneto ODV (Onlus) – Large-Scale Food Recovery

Operating across the region, Banco Alimentare Veneto collaborates with more than 600 charitable organisations and hundreds of companies and retailers. In 2023, it recovered and redistributed more than 9,000 tonnes of food, equivalent to over 18 million meals, avoiding disposal and directly supporting vulnerable communities. Through initiatives such as the annual *Colletta Alimentare* and continuous recovery from supermarkets, canteens and logistics hubs, Banco Alimentare Veneto represents a cornerstone of the regional strategy against food waste.

3. University of Padua – Research and Innovation

The University of Padua plays a leading role in research and piloting innovative solutions for food waste reduction, from digital platforms for food recovery to projects on the valorisation of agri-food byproducts. Collaborations with local authorities and student canteens include smart portioning systems, awareness campaigns, and experimental projects on composting and circular bioeconomy.

4. *Doggy Bag Veneto*

In line with the national campaign, Veneto has promoted the use of food bags in restaurants to allow customers to take leftovers home. Initiatives such as *Tenga il Resto*, launched by Contarina with CIAL and FIPE, provided recyclable aluminium containers to restaurants and clients, reducing food waste in the hospitality sector while normalizing sustainable consumer behaviour.

5. *REAL (Recupero Eccedenze Alimentari Locali)* project

Carried out within the *Spreco Zero* campaign, the *REAL* project recovers food surpluses and redistributes them through local networks, reinforcing cooperation between municipalities, associations, and charities.

6. *Fino all'ultima briciola* - Padova

Launched by ETRA S.p.A. Società Benefit together with the Consiglio di Bacino Brenta, this project promotes awareness campaigns, school workshops, and partnerships with the food service sector to reduce waste at the household and community level.

7. *REBUS* - Verona

Promoted by ACLI Verona in collaboration with Veronamercato, REBUS has been active for over 14 years in recovering unsold fruits and vegetables from the wholesale market and redirecting them to charitable organisations. In 2023, more than 399,000 kg of fresh produce were recovered from 52 operators and donated to 19 associations, supporting around 2,500 people. This initiative has been recognised by ASviS as a good Italian practice for sustainable development.

8. *RECUP* - Verona and other cities

Grassroots volunteer groups recover unsold fruits and vegetables from local markets and redistribute them directly in public squares, fostering community building at very low operational costs.

9. *Food Recovery Programme* - Vicenza

A best-practice partnership between business, catering, and the third sector: OTB Foundation, Sodexo, and Banco Alimentare Veneto recovers surplus meals from company canteens. On average, around 680 meals per month are donated, reaching more than 900 people.

10. *Da Spreco a Risorsa* - Vicenza

Promoted by Confartigianato Vicenza and run by volunteers, this initiative involves over 90 associations that recover unsold goods from producers and shops and redistribute them to vulnerable groups.

11. *Stop allo Spreco* - Vicenza

Coordinated by the Verlata Social Cooperative and Basta Sprechi Vicentina ODV, this project has been active since 2013, collecting surpluses from supermarkets and producers. During the COVID-19 pandemic, it introduced home delivery for families in need, signalled by social services.

12. Crush Paper by FAVINI - Rossano Veneto (VI)

A circular economy innovation: FAVINI has developed "Crush", a paper made partly from agro-industrial byproducts (e.g. citrus, grapes, coffee, hazelnuts, cherries). Up to 15% of tree cellulose can be replaced with food byproducts, combined with 40% recycled fibre. This initiative demonstrates how industrial symbiosis can transform waste into high-value sustainable packaging.

13. *Ri-uso* - Treviso

Launched by the Province of Treviso with local municipalities and associations, the *Ri-uso* project focuses on the recovery and redistribution of unsold products from school canteens, retailers, and markets. In addition to food distribution, the project promotes awareness campaigns in schools and families, teaching practical strategies for reducing waste at the household level.

9. Conclusions and Take-Home Messages

Food waste is a critical issue across the European Union, with profound environmental, economic, and social consequences. The *Inspirational Guide on Food Waste Prevention and Reduction*, developed within the Interreg Italy–Croatia ECOFOODCYCLE project, calls for concerted action at all levels of society. It emphasises that reducing food waste is not simply a personal responsibility but a collective mission that requires the engagement of households, businesses, and governments. Historical neglect of the problem is now being overcome by growing awareness of climate change, resource scarcity, and ethical consumption. The guide asserts that every saved meal matters by conserving water, minimizing emissions, saving money, and showing respect for food, farmers, and the environment.

The guide provides practical solutions for households, including meal planning, shopping based on portions, understanding date labels, and correct storage practices. Planning weekly meals, tracking waste, using perishables first, and smart shopping all help prevent overbuying and spoilage. Understanding the difference between *use-by* and *best-before* labels can prevent the premature disposal of safe food. Storing food correctly — using proper fridge, freezer, and pantry techniques, separating ethylene-sensitive foods, and freezing items before expiration — extends the life of food. Regular rotation of pantry and fridge items and the *Eat Me First* system further reduces waste. Portion control is essential; serving appropriate portions and using smaller plates can minimise plate waste, while pre-portioning leftovers and tracking uneaten food helps households adjust future cooking.

Reusing leftovers creatively, such as transforming roasted vegetables into soups or grain bowls, stale bread into breadcrumbs or French toast, and overripe fruits into smoothies or compote, further reduces waste. The guide also encourages building a weekly “leftover day” and involving children in repurposing food, making leftovers appealing through restaurant-style presentation.

Businesses are urged to conduct regular food waste audits, identify key points of loss, and integrate specialised software for tracking and analysis. Improved inventory management—aligned with demand forecasting and the First-In, First-Out (FIFO) principle — helps optimise stock levels and prevent unnecessary surplus. Staff training in waste prevention, flexible portion sizes for customers, menu redesign, and smaller plates or utensils are recommended to minimise plate waste, especially in hospitality settings. Repurposing ingredients across dishes, donating surplus food in partnership with charities, and composting or recycling unavoidable waste are also highlighted. Transparent reporting and celebrating success in sustainability reports can motivate staff and enhance public trust.

Governments are pivotal in setting the regulatory and cultural conditions for food waste reduction. The guide recommends clear national targets aligned with EU and UN goals, comprehensive data collection from farm to fork, public awareness campaigns, reform of food data labelling, tax incentives for donations, and circular food systems. Integration of food waste education in schools and kindergartens, support for municipal leadership in local initiatives, creation of multi-stakeholder platforms, and investments in research and innovation are key strategies. Harmonisation of policies across the EU and public

procurement standards that include waste reduction can further advance the mission. Governments can also facilitate food donation through supportive legal frameworks and liability protections, enabling safe redistribution of surplus food.

The guide showcases successful initiatives across EU countries, including France's *Too Good to Go* app, Denmark's *Stop Spild Af Mad* movement, Spain's *Espigoladors*, Germany's *foodsharing.de*, and the Netherlands' *Waste-Free Week*. These programmes demonstrate significant reductions in food waste through grassroots campaigns, digital platforms, innovative apps, and integrated policy approaches. Today, digital solutions enable individuals to manage expiry dates, inventory, meal planning, and sharing surplus food more easily and consistently — tools like *OLIO*, *Kitche*, *NoWaste*, and *FridgeCam* offer practical, everyday support.

In Croatia, a comprehensive approach integrates legislative frameworks, digital platforms (like *e-doniranje*), voluntary agreements among key stakeholders, national awareness campaigns, and education. Examples include buffet-style school canteens, large-scale food donations from producers and retailers, industrial valorisation of food waste, and certification standards for food loss reduction. Italian best practices highlight the impact of the Gadda Law, national food bank networks, digital traceability platforms, educational campaigns, circular bioeconomy projects, and regionally tailored initiatives. The guide also references local programmes in regions such as Veneto, Abruzzo, and Puglia, illustrating the value of community engagement, solidarity supermarkets, and active partnerships.

The guide concludes that reducing food waste requires daily habits consistently applied by individuals and organisations, with support from effective public policies and technological innovation. **The main take-home message is that everyone can contribute to change. Every step toward reducing waste — be it in shopping, cooking, serving, repurposing, donating, or designing policies — adds up to substantial collective progress.** Harnessing best practices, sharing successful stories, and fostering networks across borders and sectors will accelerate the adoption of sustainable food waste reduction strategies throughout the EU. The challenge is complex, but solutions are available and impactful. The invitation is clear — become part of the positive change, value food, and help build a sustainable future for all.