

# ZERO WASTE ALLIANCE IRELAND

*Towards Sustainable Resource Management*

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## Food Waste – Problems & Solutions

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Talk given at the **Green Gather Food Event**, organised by **Mullingar Climate Action Network** in partnership with **Westmeath Environmental and Climate Action Network**

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### 1. Introduction

Food waste is a topic in which **Zero Waste Alliance Ireland** has had a long and continuing interest. It has always appeared to us that the wasting or discarding of uneaten food cannot be seen in isolation, but must be addressed as part of a larger issue, encompassing our lifestyles and the way in which the global economy has developed, away from local needs and local services.

In Europe, the transformation of food from a biological necessity to a form of raw material for the food industry has, in our opinion, contributed significantly to large-scale generation of food waste. In rural areas, we have witnessed the change from small-scale farming where very little materials were uselessly discarded, to the present day situation where between 25% and 30% by weight of livestock slaughtered in Ireland for human consumption is considered as “waste”. This discarded material, instead of being utilised beneficially in ecological terms, is converted to “meat-and-bone” meal at high energy cost; and, in most cases its final destination is a cement production plant or an incinerator where it serves as a fuel for the partial recovery of some of its embodied energy, giving rise to toxic emissions to the air, and toxic ash which must be landfilled in a hazardous waste landfill.

It is well known that the production, storage, transport and processing of food, and the disposal of food waste, cause environmental and climate impacts (such as GHG emissions, and effects on land use, biodiversity, water use and eutrophication) within the EU. Also, the production of food in other countries, but subsequently imported to the EU, can lead to significant global environmental and climate impacts. Reduction of food waste means that less food must be produced, and hopefully less food waste for disposal, resulting in lower environmental and climate damage.

*“About 1.3 billion tonnes of food are wasted every year worldwide. In other words, about a third of all the food produced does not end up where it is intended to end up - on our plates.*

*According to an FAO study, food waste in Europe and North America amounts to between 280 and 300 kilograms per head per year – a chain of wastefulness starting at the fields and the farmyard, continuing through processing and trading, and finishing up in our kitchens. 95 to 115 kilograms per head per year of food are thrown out in households including many food items that are perfectly edible and could be consumed”.<sup>1</sup>*

This enormous wastage exists at the same time as one billion people in the world are suffering and dying from hunger.

With up to 20% of all food produced in the EU ending up as food waste and 89 million tonnes of food waste generated annually, equivalent to 179 kg per capita (including both edible and inedible parts), food waste is one of the largest sources of inefficiency in the agri-food chain; and this inefficiency is resulting in depletion of increasingly limited natural resources, such as land, water and biodiversity, on which the food system depends. Furthermore, along the food supply chain, **food waste contributes 8-10% of total global greenhouse gas emissions**. It also creates pressure on the natural environment by wasting chemicals and fertiliser, generating pollution and harm.

According to the international research coalition, “Project Drawdown”,<sup>2</sup> reducing food waste is one of the **most powerful solutions to preventing further global warming**. Eliminating food loss and waste to the largest extent possible, at all stages from producer to final consumer, is an urgent step towards more sustainable food systems.

Food waste is also associated with significant economic costs, estimated at around €143 billion annually in the EU. This figure includes costs to producers, who leave produce un-harvested; processors, who discard edible products that do not adhere to market size or to supermarket-dictated aesthetic standards; retailers, who lose products due to spoilage during transport, and who discard unsold products; and households which throw away edible food for a variety of reasons including spoilage, lack of knowledge, over-purchase and confusion about “best-before” and “use-by” dates.

An estimated **89 million tonnes** of food are lost or wasted every year in the EU, which is equivalent to 20% of the total food produced or **173 to 179 kilogrammes per person**. More than half of this total food waste in the EU (47 million tonnes)

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<sup>1</sup> Position Paper on Food Losses and Waste. Slow Food, 2021. Section 1, Introduction, page 3.

<sup>2</sup> <https://drawdown.org/>

is generated in households, with 70% of food waste arising from households, food services and retail shops.

According to the Environmental Protection Agency (EPA), **Ireland** generates about 1.1 million tonnes of food waste per year, not including wasted food from primary production and processing. An estimated 450,000 tonnes of food waste is produced in Ireland, every year, before the food reaches the consumer, which means that 40% of the food waste problem comes from food production.

Food waste also raises serious ethical considerations, both as a symbol of the environmental destruction caused by society and as a symbol of injustice that so much food is thrown away while many people cannot afford a meal.

Revision of the EU **Waste Framework Directive**<sup>3</sup> has prescribed obligations for Member States in the area of food waste prevention (such as the adoption of national food waste prevention programmes, and requirements for monitoring and reporting on food waste quantities). These are further supported by additional Commission actions implemented as part of the Circular Economy Action Plan,<sup>4</sup> such as the establishment of a multi-stakeholder platform (EU Platform on Food Losses and Food Waste<sup>5</sup>) and the adoption of guidelines to facilitate food donation and the use of former foodstuffs and by-products from the food chain in animal feed production. While these actions might appear to have partly addressed the problem of food waste, they have not been implemented consistently throughout the EU, with (in some cases) ineffective results.

## **2. At Farm Level**

Loss of unharvested crops has been a serious issue in **Britain** some 2 years ago,<sup>6</sup> where “*Brexit*” led to a shortage of temporarily employed immigrant farm workers because of the British Government’s reluctance to issue visas to workers from some EU Member States; with the result that as much as GB£60m of food was wasted on farms because of labour shortage.

We must also not forget the disaster caused by damage to food growing areas in **Ukraine** where farmers have been unable to harvest crops because of shelling by invading Russian military forces, or by agricultural lands being rendered

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<sup>3</sup> Directive (EU) 2018/851 of 30 May 2018 amending the original Waste Framework Directive 2008/98/EC.

<sup>4</sup> COM/2015/0614 final and [https://environment.ec.europa.eu/strategy/circular-economy-action-plan\\_en](https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en)

<sup>5</sup> [https://food.ec.europa.eu/safety/food-waste/eu-actions-against-food-waste/eu-platform-food-losses-and-food-waste\\_en](https://food.ec.europa.eu/safety/food-waste/eu-actions-against-food-waste/eu-platform-food-losses-and-food-waste_en)

<sup>6</sup> <https://www.theguardian.com/environment/2022/aug/15/pounds-60m-in-uk-crops-left-to-rot-lack-of-workers-nfu-farming>

dangerous to harvest because of the presence of landmines deposited by the Russian army when it was in control of these areas.

According to the WWF report “*Driven to waste: the global impact of food loss and waste on farms*”,<sup>7</sup> which shows the most comprehensive review of data on primary production food loss and waste to date, about 150 million tons of food is wasted on European farms (14.6% of total production) every year.

ZWAI has advocated that mandatory reporting by Member States should include data on quantities of food left unharvested and ploughed back into agricultural land.

### **3. Food Waste Reduction Targets**

Food waste reduction targets should include the whole food supply chain, from farm gate through transportation, processing, packaging and distribution to the final consumer; and without any delay in implementation.

In the event of surplus food generation, measures to **recover** and **redistribute** the discarded food should be identified and outlined for Member States to follow, in line with the waste prevention hierarchy.

ZWAI recommended to the European Commission that food waste should be reduced by 40-50%. And we strongly advocated a food waste reduction target of **at least 50%**.

The European Parliament also stated that a 50% target should be maintained, and ZWAI stated that the adoption of an “*at least 50%*” food waste reduction target should assist in the aim of reducing GHG emissions by 55% by 2030. This is a relevant aim, especially given that COP29 is currently in progress in Baku.

### **4. Along the Supply Chain**

An unacceptably high proportion of food is lost along the supply chain before it even reaches the consumer, and we do not have reliable data on these losses. So we proposed that Member States, including Ireland, should identify critical loss points and should take appropriate countermeasures to prevent these losses. We also recommended mandatory taxes on Member States who send food waste above a certain threshold to landfills and/or incineration, or who fail to implement regulatory measures which focus on preventing food waste.

We also advocated mandatory measurement and reporting by food businesses in all Member States of their food waste reduction measures, actions and data annually, and this information must be made publicly available.

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<sup>7</sup> Driven to waste: The Global Impact of Food Loss and Waste on Farms. WWF-UK (2021)

Periodically increasing fines for businesses above a certain size for not following the food waste prevention hierarchy is another mandatory measure that could be implemented. This measure could be extended to include levies on retailers in direct proportion to the food waste levels of their suppliers.

The hospitality and food services' sector (hotels, restaurants, fast food sellers) should be required to measure and report food waste, and should implement food waste prevention in their operations and organisations. Perhaps food portions should be reduced, or customers given an option to order larger or smaller portions !

## 5. Education and Awareness for a Healthy Lifestyle

Promoting a dietary food lifestyle through campaigns and educational drives could play a significant role in reducing the environmental potential of food waste and loss in terms of greenhouse gas emissions and land use demand. Replacing a carbon-heavy meat-based diet, including beef and pork, with lean protein substituent can result in an immediate drop in GHG emissions by 34%.

Shifting our diets and addressing food waste can significantly reduce the global demand for food. Eating lower on the food chain and ensuring that a much higher proportion of what's grown actually gets eaten is a powerful combination that lowers and reduces farming inputs, land clearing, deforestation, soil damage, biodiversity loss, heavy fertiliser use, water pollution, and emissions of methane and nitrous oxides from farm animals and slurry storage and spreading.

In January 2019, the EAT–Lancet Commission published an authoritative report on *“Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems”*. The report could best be described as a *“healthy diet for a healthy planet”*, and was the subject of much discussion, including unfavourable criticism from organisations with an interest in maintaining the environmentally damaging form of industrial food production which has caused huge biodiversity loss and soil damage.

The Lancet Commission identified food production as the largest pressure caused by humans on the environment, and recommended major changes to diets necessary to avoid reduced life expectancy and environmental degradation, including soil degradation.

The Commission's dietary recommendations called for a **plant-based diet** consisting mostly of fruit, vegetables, whole grains, legumes, nuts, and unsaturated oils, a low to moderate amount of seafood and poultry, and **no or a low quantity of red meat, processed meat, added sugar, refined grains, and starchy vegetables**. The Lancet Commission showed that it is possible to feed a global population of nearly 10 billion people a healthy diet within the recommended food production boundaries by 2050. Food for these 10 billion humans must be provided **using no additional land**.

A report by agricultural scientist, James O'Donovan, entitled "*Transition to an Irish Vegan Agricultural System*",<sup>8</sup> highlighted major inefficiencies in the global agricultural system, in which 77% of total agricultural land is used to support livestock, producing only 18% of the global calorie supply.

James O'Donovan's report showed that, in Ireland, 97% of agricultural land is used for meat and dairy production. In the EU, in 2019, between 69% (€28.5 billion) and 79% (€32.6 billion) of the Common Agricultural Policy (CAP) direct payments were for livestock rearing.

His report recommended that all small farms should be converted from animal agriculture to payment for ecosystem services, in total 43,600 small farms, and he concluded that:

*"The most effective way for agriculture to change will come from changes in consumer behaviour supported by legal and policy supports for plant-based agriculture from national governments and Global Agreements. In Europe and Ireland the CAP needs to change to stop subsidising meat and dairy production and instead support ecosystem services or plant based agricultural systems. A transition to a vegan agricultural system will enable us to:*

- ✓ *stop agriculture from consuming more forests, grasslands and other ecosystems;*
- ✓ *eliminate pesticides and antibiotics from agriculture;*
- ✓ *gradually restore ecosystems and biodiversity and thereby reverse climate change;*
- ✓ *boost the productivity of farms as plant based agriculture is much more efficient;*
- ✓ *reduce water and fertilizer use;*
- ✓ *reduce waste in food production and distribution as grains and legumes are much easier to store without deterioration.*

*Globally switching to a whole food plant based diet has the potential to return millions of acres of land to wild habitat, to reverse rainforest destruction, to restore the health and volume of our freshwater rivers and lakes, to prevent further species extinctions, to eliminate billions of tons of pollutants (cow dung, carbon dioxide, methane, nitrous oxides, and ammonia), and to make a major contribution to stabilising and reversing climate change. Gradually as people become conscious of the ethical, environmental, economic, and health benefits then they will find the motivation to choose a plant based diet. When this happens is up to all of us. The faster we transition to a non-violent VAS (Vegan Agricultural System) the faster we can stem the haemorrhage of*

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<sup>8</sup> James O'Donovan, 2019. "Transition to an Irish Vegan Agricultural System". 96pp.

*biodiversity loss and restore our health and the health of the planetary systems we depend on”.*

In our submission to the EU,<sup>9</sup> we strongly advocated this type of change, and we pointed to good practices such as carbon farming, production of biochar, regenerative farming, aerobic composting as a way of locally transforming food waste into a useful soil additive, etc.

Finally, when we go shopping for food, i.e., buying food, we should use local farmers markets where possible, buy only what you need, avoid the offers of “two for one at the same price”, try to ignore advertising (which becomes massive as we approach Christmas), avoid “fast food” and so-called “cheap food”, read every label carefully, and simply be aware !!

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<sup>9</sup> Feedback to the European Commission on Food Waste Reduction Targets; 24 August 2022. Available on the ZWAI website at: <https://www.zwai.ie/resources/2022/feedback-to-the-european-commission-on-food-waste-reduction-targets/>