

Food waste, food loss and climate change

Event write-up

Corresponding with the National Food Waste Action Week by WRAP, on 2nd March 2021, Policy Connect hosted an event through the All-Party Parliamentary Sustainable Resource Group (APSRG) on food loss, food waste and climate change. Participants included parliamentarians, industry leaders, as well as representatives from academia and third sector organisations. The session explored the interlinkages between food loss, food waste, climate change, resource efficiency and wider sustainability aspects.

The discussion was used to inform this write-up, but this was formulated solely by, and is only attributable to, Policy Connect.

Summary of recommendations

Around 3.6 million tonnes of food is lost pre-farm gate.

- To reduce this, it would be important to change consumer attitudes, allow more flexible specifications by supermarkets; launch promotional campaigns that align with the production of seasonal produce; provide more accurate retailer forecasts for growers; and increase data on pre-farm gate waste. In addition, finding alternative ways for using less desirable looking, but edible food, as well as selling food for animal consumption can also help reduce food loss.
- Ploughing back can keep carbon in the soil and increase its nutrient content, while saving food waste to be sent to landfill. Giving incentives and training for to farmers to keep carbon in the soil would be a key greenhouse gas mitigator.
- Composting, anaerobic digestion for bioenergy production and incineration with energy recovery provide options if food waste cannot be prevented in the first place.

The disconnection between growers/producers of food and consumers contributes to food loss and food waste.

- It is important to localize and regionalise the food system and reconnect consumers with producers.
- During Covid-19, the demand for local food has increased. Many consumers got interested in reaching out to local producers. To ensure these behavioural changes last, it is important to encourage it through incentives.
- Farmers should be included in selling at markets or farm shops, where the appearances can be less restricted than in supermarkets. This would be an important tactics in reducing food waste. Redistribution charities and community shops can also play a role in this.

1.1 million tonnes of food waste is thrown away by the hospitality and food services industry every year and on average, 18% of the food purchased by the sector is thrown away ¹.

- Skills in the hospitality and food services industry have to be strengthened and developed through training to tackle this.

Household are responsible for 6.6 million tonnes of food waste in the UK.

- Labelling and packaging is important to reduce this and it is crucial to encourage and work with businesses to adopt packaging and labelling solutions that help reduce food waste. This also has to be taken into account as part of the extended producer responsibility reform for packing which the four UK nations currently consult on.
- Consumer-facing initiatives are very important as they can give consumers better access to information on how to correctly store food, the difference between best before and use by dates, meal planning and freezing (which is a key technique to save food from going to waste).
- Communicating the link between food waste and climate change to consumers can also contribute as a motivating factor to reduce their food waste.

Mandatory food waste reporting would be a very important enabler of preventing food waste.

- Mandatory food waste reporting was included in the Waste and Resources and Strategy, but the consultation on it was delayed. It would very important for Defra to consult on the topic this year. If businesses knew how much food and at what value they are throwing away, it would provide more motivation for them to act and track progress.
- As part of its new strategy, entitled 'Beyond Recycling - A strategy to make the circular economy in Wales a reality', the Welsh Government announced that it will consult on 'the need for a requirement for businesses to report food waste quantities, and introducing a requirement for major retailers to redistribute surplus edible food. France has already banned for major retailers to throw away edible food that could be donated to charities in 2016 and such legislation can help tackle food waste.

Ensuring that all local authorities are collecting segregated food waste would also be key to tackle the problem.

- Segregated food waste collection is in place in Wales and Wales has lower average rates of food waste than other parts of the UK. While the absolute causality cannot be proved, there is an implicit hypothesis that if people see food waste more visibly, they are more motivated to take action upon it.
- Separate food waste collections would also be key enablers to recycle and reuse any food waste that cannot be prevented in the first place.
- The Environment Bill is a key to give the powers for the standardization of separate food waste collections and it is key that government launches the consultation on the question soon.

As Part 2 of the National Food Strategy is prepared, it is important to ensure that it offers practical solutions on food loss and food waste as well. It should make ambitious recommendations on food loss and food waste which then government needs to prioritise as policy.

¹ Guardians of Grub. Accessed at <https://guardiansofgrub.com/> on 31 March 2021

- It is important that it approaches food loss and food waste from a circular economy perspective, using loops and the concepts of reuse, building in circular economy to the Strategy.
- It needs to look at food systematically, combining economic, employment, social, health and sustainability perspectives simultaneously.

Food and farming is linked to climate change, a topic that is important for COP26.

- This represents a clear opportunity for the UK to lead on the conversations on how we redesign global food production, help to eliminate waste and thus tackle climate change.

The UK needs infrastructure investment for managing, recycling and reusing waste – investment in food waste infrastructure is key to tackle food loss and food waste.

Facts about food loss, food waste and climate change

Food loss refers to the ‘decrease in edible food mass throughout the *part of the* supply chain that specifically leads to edible food for human consumption’, including the production, postharvest and processing stages; whereas **food waste** occurs at the end of the food chain, relating to retailers’ and consumers’ behaviour².

FAO, the Food and Agriculture Organisation of the United Nations estimates that a third of food produced for human consumption around the world is lost or wasted³. This not only means a missed opportunity to reduce hunger, malnutrition and inequality or enhance food security, but also represents a waste of natural resources that are used for growing, processing, packaging and marketing food⁴.

Food production, food loss and food waste are closely interlinked with climate change. The global food system accounts for up to one-third of human-induced climate change⁵, yet 1.3 Gtonnes of edible food is wasted every year⁶. The carbon footprint of food produced and not eaten is estimated to be 3.3 Gtonnes of CO₂ equivalent which means that if food waste was considered a country, it would be the third biggest emitter of greenhouse gases after the USA and China⁷.

13.6 million tonnes of food is wasted each year in the UK and the Committee of Climate Change has urged government to implement steps to reduce food waste from the farm to the householder⁸. As the general pattern in high income countries, consumers are responsible for substantial levels of food wasted, but it is also important to tackle food loss and waste that occurs in the supply chain, including processing, transport and retail, as well as agricultural production.

² FAO. 2011. Global food losses and food waste.

<http://www.fao.org/3/mb060e/mb060e01.pdf>

³ FAO. 2013. Food wastage footprint impact on natural resources. Summary report.

<http://www.fao.org/3/i3347e/i3347e.pdf>

⁴ FAO. 2015. Food wastage footprint & climate change: <http://www.fao.org/3/a-bb144e.pdf>

⁵ <https://www.nature.com/news/one-third-of-our-greenhouse-gas-emissions-come-from-agriculture-1.11708>

⁶ FAO. 2013. Food wastage footprint impact on natural resources. Summary report.

<http://www.fao.org/3/i3347e/i3347e.pdf>

⁷ Ibid.

⁸ The CCC. 2020. Land Use: Policies for a Net Zero UK. <https://d423d1558e1d71897434.b-cdn.net/wp-content/uploads/2020/01/Land-use-Policies-for-a-Net-Zero-UK.pdf>

According to the figures of WRAP, food loss on farms accounts to ~3.6 million tonnes. In addition, 9.5 million tonnes of food is lost or wasted post-farm gate, 16% (1.5 million tonnes) of which occurs during manufacturing, whereas households are responsible for 70% (6.6 million tonnes) of food waste occurring in the UK.

The current policy landscape

As Part 2 of the National Food Strategy being prepared, food loss, food waste and sustainability is highly relevant to the policy agenda.

In addition, already existing policy commitments include the objectives set in the Waste and Resource Strategy for England which dedicated Chapter 5 to the question of food waste. The Strategy targets to eliminate food waste to landfill by 2030⁹. Moreover, the headline commitments the Strategy set include: reducing food waste through a £15 million pilot fund; consulting on annual reporting of food surplus and waste by food businesses; consulting on legal powers to introduce mandatory targets for food waste prevention; publishing a new food surplus and waste hierarchy; appointing a new Food Surplus and Waste Champion; and supporting cross sector collaboration through the Courtauld 2025 agreement^{10 11}.

The Strategy also confirmed the commitment to meeting the UN Sustainable Development Goal 12.3 target, which aims to halve global food waste at consumer and retail levels by 2030¹².

Some examples of action currently taken on food loss, food waste and climate change

- WRAP is leading action on food waste through the Courtauld commitment. This has around 50 business signatories as well as local authorities, trade associations, governments and academia. In the first milestone period of the commitment, 7% reduction was achieved (against the 20% target by 2025). This was accompanied by a 7% reduction in greenhouse gas emissions per person from producing and consuming food (also against the 20% target by 2025)¹³.
- IGD and WRAP released the Food Waste Reduction Roadmap in 2018 as an industrywide roadmap (involving UK retailers, food producers, manufacturers, and hospitality and food service companies) to help achieve SDG 12.³¹⁴. According to the 2020 Progress Report on the roadmap, 180 000t of food (worth £300 million) from 45 companies reporting comparable data has been saved from becoming waste¹⁵.
- The Meat in a Net Zero world initiative by WRAP sets a vision for the meat industry across the meat supply chain which aims to optimize meat productivity and minimize waste from

⁹ HM Government. 2018. Resources and Waste Strategy.

¹⁰ WRAP Courtauld Commitment Accessed at <https://wrap.org.uk/taking-action/food-drink/initiatives/courtauld-commitment-2025> on 26 February 2021

¹¹ HM Government. 2018. Resources and Waste Strategy.

¹² HM Government. 2018. Resources and Waste Strategy.

¹³ WRAP Courtauld Commitment Accessed at <https://wrap.org.uk/taking-action/food-drink/initiatives/courtauld-commitment-2025> on 26 February 2021

¹⁴ WRAP. Food Waste Reduction Roadmap. Accessed at <https://wrap.org.uk/taking-action/food-drink/initiatives/food-waste-reduction-roadmap> on 31 March 2021

¹⁵ WRAP. 2020. Food Waste Reduction Roadmap Progress Report 2020.

farm to fork. The initiative currently represents around 40 of the UK's largest businesses involved in the UK meat sector.

- WRAP's Guardians of Grub initiative aims to help raise awareness and tackle the skills gap in the hospitality and food services sector to address food waste.
- The National Farmers' Union has set the target to reach net zero across the whole of agriculture in England and Wales by 2040¹⁶.

Systematic questions

Food loss and food waste is a system failure in the food waste sector. To tackle it, we need to rethink how food sector works.

As part of this, it is helpful to explore the food and drink material hierarchy compiled by WRAP. (From most to least desirable when read from top to bottom.)

- **PREVENTION:** The prevention of food loss and waste should have primary importance. As part of this, it is important to investigate how food can be redistributed to people and if this doesn't work, how food can be sent to animal feed. Legislation in the UK currently partly disallows this which is a barrier to prevent the loss or wastage of food by sending it to feed animals with it. Currently not enough prevention is going on, yet that is what we should focus on in the first place.
- **RECYCLING:** If food loss and food waste cannot be prevented, it should be recycled with waste sent to anaerobic digestion and composting.
- **RECOVERY:** Recycling is followed in terms of desirability by recovery which refers to the incineration of food waste with energy recovery.
- **DISPOSAL:** Disposal is the least preferred option, referring to incineration without energy recovery, waste sent to landfill and waste parts ending up in sewers.

Tackling food waste is a question of rethinking and redesigning the food system, taking into account environmental, human and economic health, as well as social factors.

When addressing food loss and food waste, we need to understand where it's happening and how, understanding the sequencing and dynamics in the system, thinking of diagnosis, intervention, prevention and behaviours in the system.

The question of food loss and food waste cannot be solved through a one-size fits all approach.

The reason of food loss and food waste to a great extent lies in the idea of the single-use society.

A key reason why the UK food system produces so much waste is the disconnection between individual actors in this food chain. It is important to localize and regionalise the food system and reconnect consumers with producers.

Anchor institutions (large institutions, such as schools, hospitals, universities, public institutions with large purchasing power) can have a role in offering a connection place between producers and consumers. A pilot based on a similar model is the South West Food Hub, with a hospital in Cornwall acting as an anchor organisation.

¹⁶ NFU. Achieving NET ZERO. Farming's 2040 goal. Accessed at <https://www.nfuonline.com/nfu-online/business/regulation/achieving-net-zero-farmings-2040-goal/> on 1 April 2021

Food loss pre-farm gate

Food loss occurs pre-farm gate due to retailer standards (out of specification fruit and vegetables being rejected by supermarkets); cancelled retail orders due to unforeseen changes in consumer demand; over production (also due to requirements to fulfil retailer contracts); and harvesting and processing wastage. Consumer expectations can also lead to food waste. Consumer expectations of what quality produce look like could mean that produce, which does not meet normal standards but makes it to the supermarket anyway is not purchased and then often ultimately wasted at the retailer end of the market.

In order to reduce food loss pre-farm gate, it would be important to change consumer attitudes, allow more flexible specifications by supermarkets; launch promotional campaigns that align with the production of seasonal produce; provide more accurate retailer forecasts for growers; and increase data on pre-farm gate waste.

To reduce food waste, retailers should help drive consumer demand for less in demand products. Farmers can also innovate in this direction. The alternative use of food and vegetables is key to reduce food waste.

Moreover, including farmers in selling at markets or farm shops, where the appearances can be less restricted than in supermarkets are also important tactics in reducing food waste. Redistribution charities and community shops can also play a key role in this.

Selling crops for animal feed can also help reduce food loss and food waste, but there are legislative barriers for this.

Even ploughing back can raise crop residues into the soil, and provide nutrients and organic matters. Furthermore, some growers are investing in treatment technologies such as composting and other way with digestion which produces soil amendment or fertilizer, and in the case of anaerobic digestion, bioenergy. The last thing growers want is their produce ending up in landfill.

Change is required across the whole supply chain. Therefore, consumers need to have better access to information on how to correctly store food, the difference between best before and use by dates and meal planning. Customer-facing initiatives are very important to change this. Moreover, it is also important to make consumers consider how climate and other seasonal factors influence products – action is needed to ensure that promotional campaigns are aligned with production, promoting seasonality of British fruit and vegetables.

The cancellation of orders at short notice also needs to be addressed, as they can make growers unable to sell perishable crops. If growers are aware that their order will be cancelled, they will be able to account for this and arrange for alternative outlets in advance.

Lastly, one of the biggest difficulties is getting hold of accurate figures measuring the extent of food loss pre-farm gate, unlike the rest of the supply chain. More data has to be collected on this, so that strategies to reduce waste can be better targeted.