



Norwegian Ministry
of Agriculture and Food

Norway's experience with integrating food loss and waste prevention and reduction measures as part of climate policies

Per Hallvard Eliassen, Senior adviser

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I will talk about

- Matvett/NORSUS has calculated the climate impact of food waste in the sectors they measure (food industry, public sector and households) in their main reporting on food waste for 2020
- In 2019, the Norwegian Environment Agency published the report Climate cure 2030, where achieving the industry agreement's goal of reduced food waste is calculated to reduce climate emissions by 1.5 million tonnes of CO2 equivalents in the agricultural sector in the period 2021-2030 due to reduced production as a result of the reduced food waste.
- Based on Climate Cure 2030, the Government presented a White Paper on climate in January 2021, "*Climate Plan 2021-2030*", with a broad discussion of the work against food waste.
- There is a broad mention of the work against food waste in both the White Paper on Sustainability and the Strategy on Green Circular Economy, both of which the Government put forward in June 2021.
- In 2019, the Government and agriculture entered into an agreement of intent on reduced greenhouse gas emissions and increased absorption of carbon from agriculture. The Government's goal of halving food waste by 2030, is an important measure in this agreement.

Matvett/NORSUS has calculated the climate impact of food waste in the sectors they measured in 2020

- They measured the food industry, public sector and households in their main reporting on food waste for 2020
- Edible food waste from the food industry, the education and care sector and households amounted to 400 000 tons in 2020. This can be converted to:
 - 75 kg of edible food waste per capita/year
 - 1.1 million kg of edible food thrown away every day, and corresponds to:
 - an **annual carbon footprint of 1.3 million tons of CO2 equivalents**
 - an annual financial loss of more than NOK 20 billion.

Facts and figures for the food industry

- Matvett is an organization that helps the food industry to prevent and reduce its edible food waste. Key figures for the food industry:
- Edible food waste in the food industry (production and manufacturing, retail and distribution and restaurants and food service) amounted to around 180 000 tons in 2020. This can be converted to:
 - 33 kg of edible food waste per capita/year and corresponds to:
 - **an annual carbon footprint of about 0.5 million tons of CO2 equivalents**
 - an annual financial loss of more than NOK 7 billion.
- Edible food waste in the food industry was reduced by 14% in kg per capita, or 21 000 tons, from 2015 to 2020. This corresponds to:
 - **A reduction in the carbon footprint of 21%.**
 - A reduction in the financial loss of 22%.



Definition of edible food waste

- *“Edible food waste consists of all useful parts of food produced for humans which are either discarded or removed from the food chain for other purposes than human food, from the time of slaughter or harvesting.”* (Negotiated agreement on reduction of food waste, the Government and the food industry)
- This definition thus includes only the wastage of edible parts of food (not inedible parts such as bones, pits, shells, etc.).
- Food used as animal feed is regarded as edible food waste, since it has not been used as human food.

Calculation of carbon footprint

- The carbon footprint is calculated on the basis of greenhouse gas emissions per kg of a product based on life cycle analysis (LCA) methodology.
- Greenhouse gas emissions include all greenhouse gases associated with the production, transport and packaging of food that is discarded.
- The carbon footprint is estimated on the basis of the amount and composition of edible food waste that occurs in the various stages of the value chain, and is calculated by multiplying the amount of waste in tons for product groups and sectors by emission factors for each product group.

Climate cure 2030

		Emission reduction potential 2021-2030 Mtonnes CO ₂ e (GWP100, global)	Cost category NOK/tonne CO ₂ e (GWP100, global)	Emission reduction potential 2021-2030 Mtonnes CO ₂ e (GTP10, Norway)	Health effects in million NOK for the period 2021-2030	Other co-benefits and adverse side effects
Agriculture						
J01	Transition from red meat to a plant-based diet and fish	2.89	< 500	7.79	84 740	May have adverse impacts on species diversity if pasture becomes overgrown, and lead to lower albedo and less carbon fixation in soils. Runoff from vegetable production may increase; runoff from livestock manure may be reduced.
J02	Reduction of food waste	1.53	< 500	3.96	-	Positive effects on several environmental indicators (e.g. acidification, eutrophication, photochemical oxidation, NO _x and particulate emissions) and reductions in resource use (e.g. water, primary energy, phosphorus).
J03	Use of animal manure in biogas production	0.25	> 1500	0.93	-	Reduced nutrient runoff
J04	Various manure-related measures	0.33	> 1500	0.40	-	May reduce ammonia emissions to air, and reduce nitrogen and phosphorus runoff and thus eutrophication and acidification.
J05	Halt new cultivation of peatland	0.12	< 500	0.51	-	Natural peatlands will be maintained. These have a number of important ecological functions, e.g. as habitats for many species and in some cases in local flood control.
Sum agriculture		5.1		13.6		



White Paper on Climate: Climate Plan 2021-2030

- Based on Climate Cure 2030, the Government presented a White Paper on climate in January 2021, *Climate Plan 2021-2030*: The government will:
- that the public sector should lead as a good example and step up efforts to reduce food waste in public enterprises to contribute to reaching the target in the industry agreement on reduced food waste
- work to improve reporting of food waste in the public sector
- engage in dialogue with, among others, the information offices in the agricultural sector and the Seafood Council to strengthen their work for reduced food waste
- see the work on food waste in connection with knowledge about healthy, sustainable and climate-friendly diets in kindergarten, school and after-school arrangements
- see the work with reduced food waste in context with increased utilization of the entire food resource which is harvested/cultivated, including the increase use of residual raw material



White Paper on Sustainability + Strategy on Green Circular Economy

There is a broad mention of the work against food waste in both the White Paper on Sustainability and the Strategy on Green Circular Economy, both of which the Government put forward in June 2021. The government will:

- work for increased adherence to the industry agreement on the reduction of food waste from the state, municipal and county sector
- strengthen the knowledge and dissemination work on the prevention of food waste, especially towards consumers

Agreement of intent on reduced greenhouse gas emissions and increased absorption of carbon from agriculture

- In 2019, the Government and agriculture entered into an agreement of intent on reduced greenhouse gas emissions and increased absorption of carbon from agriculture.
- The Government's goal of halving food waste by 2030, is an important measure in this agreement.



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