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## **Norway – Country Report on national food waste policy**

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# Colophon

Title	Norway – Country report on national food waste policy
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Oslo, 03.02.16

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# Definitions and abbreviations

## Glossary

**National strategies on food waste prevention** are a method, strategy or plan specifically addressing food waste prevention as required by the 2008 Waste Framework Directive. Key sectors addressed in the plan should include local authorities, households, the hospitality industry, the retail supply chain, businesses and institutions (such as schools and hospitals).

**Market-based instruments** are policy tools that encourage behavioural change through market signals rather than through traditional regulations. Examples include environmentally related taxes, charges and subsidies, emissions trading and other tradable permit systems, deposit-refund systems, environmental labelling laws, licenses, and economic property rights.

**Regulations and regulatory instruments** are governmental or ministerial orders having the force of law. Regulatory instruments are sometimes called "command-and-control"; public authorities mandate the performance to be achieved or the technologies to be used.

**Voluntary agreements** are alternative courses of actions such as self-regulations developed by the industry generally aimed to deliver the policy objectives faster and/or in a more cost-effective manner compared to mandatory requirements.

**Technical reports and main scientific articles** refer to publications that report results of experimental and/or theoretical scientific investigations to enhance the body of scientific knowledge (in this case about food waste and losses).

**Communication and campaigns include** national "umbrella" campaigns; campaigns; short campaigns and festivals; education and training activities; contests and competitions; exhibitions, whose aim is to raise awareness on food waste. Communication include seminars and lectures; vocational trainings; books and manuals.

**Projects and other measures** refer to initiatives like neighbourhood projects, food sharing platforms, platform/networks, labelling, applications, etc... that contribute and/or are connected to food waste reduction.

**Food waste policy mix highlights** refers to negative and positive highlights and analytical data emerging from the analysis of the policies of each country.

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## Abbreviations






FWM = Food waste management

FWG= Food waste generation

FWR= Food waste reduction

OFU= Optmization of food use

## Legenda

A1 	Primary production pre-harvest
A2 	Primary production ready for post-harvest
A3 	Processing and manufacturing
A4 	Wholesale, retail and marketing
A5 	Food preparation and consumption

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# Structure of the country report

- A) National strategy on food waste prevention
- B) Market-based instruments
- C) Regulations and regulatory instruments
- D) Voluntary agreements
- E) Technical reports and main scientific articles
- F) Communications and campaigns
- G) Projects and other measures
- H) Food waste policy mix: highlights

References

## A) National strategy on food waste prevention

Norway has not implemented a specific strategy or national plan for food waste reduction, however food waste reduction is a key element - together with biogas production from organic waste – of the **National Waste Management and Prevention Plan “From Waste To Resources”**. The Plan was launched in August 2013 by the Ministry of Climate and Environment.

The overarching element of the Plan regarding food waste is waste prevention throughout the food chain. The strategy is based on the cooperation between Governmental Authorities and the different stakeholders in the food sector especially through negotiated agreements. Considering food waste, the main elements in the strategy are two-fold:

- Food waste prevention, where the key responsibility is on the actors in the food chain to develop and implement solutions in the food chain. A significant attention is dedicated to households where the main emphasis is information and campaigns to improve knowledge about food labelling (in particular the difference between the date of minimum durability and the “use by” date), good routines for planning of meals, storage of food etc.
- The establishment of new biogas plants to take care of food waste and manure, to produce biogas, especially for the city transport and biorest for fertilizing fields.

Other important objectives of the strategy include the reduction of food waste, the development of better statistics and indicators for food waste as a basis for target setting and networking.

*Types of implications:* food waste reduction.

*Food supply segments involved/addressed:* all.






## B) Market-based instruments
















There are no market-based instruments specifically addressing food waste in place at December 2014.

## C) Regulations and regulatory schemes

In Norway, there are no laws and regulations directly developed and approved to cope with food waste prevention as such, however the most important acts and regulations with implications on food waste include those on food labelling (The Norwegian Food Labeling Regulations No 1385), food hygiene (The Norwegian Food Hygiene Regulations (Nos 1622 and 1623), on pollutions and waste (Pollution Act of 13th March 1981 No 6) and the ban on landfilling.

Table 1. Norway’s regulations and related implications on food waste along the food chain

Law	Description	Types of implications	Main FSCS involved
<b>Norwegian Food Labeling Regulations of 21 December 1993 No 1385 implementing amongst others Directive 2000/13/EC on the labeling of foodstuffs</b>	Implementing amongst others Directive 2000/13/EC on the labeling of food stuffs promoted by the Ministry of Climate and Environment, Pollution Act Ministry of Health and Care Services, Food Safety Act.	FWM OFU	A1  A2  A3  A4  A5 

Law	Description	Types of implications	Main FSCS involved
<b>The Norwegian Food Hygiene Regulations of 22 December 2008 Nos 1622 and 1623 implementing Regulations (EC) Nos 852/2004 and 853/2004 on food hygiene</b>	This regulation was implemented by the Ministry of Health and Social Affairs in 2008, to be in accordance with similar EU regulations in the area. The main purpose is to secure food safety by defining minimum criteria for and responsibility for food hygiene by all actors in the food business. The regulation is thus not directed towards prevention of food waste as such, but good hygiene will contribute to improve the quality of food and thus to reduced food waste in the food chain. By preventing failures in processing, packing and distribution of food which might cause destruction of large quantities of food, the regulations will also prevent food waste.	FWM OFU	A1  A2  A3  A4  A5 
<b>Pollution Act of 13th March 1981 No 6</b>	The purpose of this Act is to protect the external environment from pollution and to reduce existing pollution, to reduce the volumes of waste as well as to promote better treatment of waste. The Act is aimed at ensuring an adequate environmental quality, so that pollution and waste do not cause damage to health, adversely affect human well-being, or damage nature's capacity for production and self-renewal.	FWM FWR	A1  A2  A3  A4  A5 
<b>Ban on landfilling July 1<sup>st</sup> 2009</b>	Regulations about treatment and recycling of waste 1th June 2004, based in the Pollution Act of 13 <sup>th</sup> March 1981 No 6 to implement the EU rule of forbidding deposits of organic waste to land fill.	FWM	A1  A2  A3  A4  A5 

#### D) Voluntary agreements

Voluntary agreements in the field of waste management and prevention are an established practice in Norway, as the use the Extended Producer Responsibility approach and various negotiated agreements between the Government and relevant sectors show. In particular such agreements exist in the packaging sector since 1994.

To date (December 2014) there are no voluntary agreements related to food waste in place in Norway. However, this approach was proposed as part of the waste strategy published by the former Norwegian Government in 2013. Therefore, a process of negotiation between the Government and the Food Sector in Norway including food producers, groceries and the retail sector, food service and hospitality has just started to develop an agreement. This agreement, which will be ad interim in the first hand, will be followed by a more permanent agreement in 2015, with specific targets for food waste reduction, a monitoring program and collaborative efforts to prevent and reduce food waste in the whole food chain.

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*Types of implications:* food waste generation; food waste management; food waste reduction; optimization of food use.

*Food supply segments involved/addressed:* all.

## **E) Technical reports and main scientific articles**

The main institutions that launched/promoted publications are the Nordic Council of Ministers, Ostfold Research and ForMat project/Matvett Ltd., Norwegian Environment Agency, Ostfold Research, Statistical Bureau and Mepex Consult

### **Hanssen, O. J., Schakenda, V. (2011). Status and trends for avoidable food waste in Norway 2011. Report Oestfold Research OR 37.10. ISBN 978-82-7520-655-6 [In Norwegian]**

The report summarizes the results of the first two years of food waste monitoring in the ForMat project, with emphasis on data for 2010 (data from grocery, wholesale operations and production) and from 2011 (Gallup data). Data collection and analysis is done using standardized methods to be followed over several years to analyze development in quantities and values of food waste and frequency of disposal. Overall, it was estimated that an average citizen disposes 51.1 kg of food per year. The main product groups measured in kilograms per capita and year were fresh fruits and vegetables (12.5 kg), cookware and dish residues (11.3 kg) and fresh bread (10.1 kg). Nearly 31% of bakery goods and 40% of meat and fish items were still packaged.

*Types of implications:* food waste generation; food waste reduction.

*Food supply segments involved/addressed:* processing; wholesale, logistic, retail and marketing; food preparation and consumption.

### **Hanssen, O.J. & Møller, H. (2013). Status and trends for avoidable food waste in Norway 2010-13. Report Ostfold Research OR 32.13. ISBN 978-82-7520-707-2 [In Norwegian]**

This report summarizes the four years of data on mats win in Norway, which is obtained from the food industry, retail trade, wholesale business and from Norwegian consumers. Results of the survey show few clear signs of decrease in the amount of food waste during the four year period. In the production stage there was a slight reduction of approximately 16% in the total. Grocery results show that fresh baking and fresh ready products are the two product groups with the highest percentage of shrinkage throughout the whole period, and that fresh products especially increased to become the product group with the highest percentage of wastage. For wholesalers, food waste accounted for approximately 0.13% of the turnover in the relevant product groups in 2012, roughly halved since 2009. Gallup surveys among consumers indicate reduction with a lower percentage who reports having thrown a given commodity group in 2013 than in 2010.

*Types of implications:* food waste generation; food waste reduction.

*Food supply segments involved/addressed:* processing; wholesale, logistic, retail and marketing; food preparation and consumption.

Scientific articles regarding the Nordic countries (including Norway):

### **Franke, U., Einarson, E., Andrésen, N., Svanes, E., Hartikainen, H. & Mogensen, L. 2013. Kartläggning av matsvinnet i primärproduktionen. TemaNord, Volume 581, 2013, Nordiska ministerrådet [In Swedish]**

Food is wasted in all the segments of the food chain. There are statistics on food losses and wastes at different stages of the chain, but for primary production, i.e. farmers' activities, there are no reliable figures. The report presents the result of a project with representatives from Denmark, Finland, Norway and Sweden, in which food wastage for five product groups was calculated: milk, pork, carrots, onions and potatoes. The results



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show that a large amount of food is lost already in the primary production. Wastage of milk and pork has the greatest effect on producers' finances, amount of available arable land and climate, although wastage in production percentage is higher for carrots, onions and potatoes. Another finding is that consumer demand can cause wastage even in the primary production, especially for fruit and vegetables.

*Types of implications:* food waste generation.

*Food supply segments involved/addressed:* primary production pre-harvest; primary production post-harvest.

**Marthinsen, J., Sundt, P., Kaysen, O. & Kirkevaag, K. 2012. Prevention of food waste in restaurants, hotels, canteens and catering. TemaNord, Volume 537, 2012, Nordic Council of Ministers.**

This report covers and describes all the operations related to the "hospitality sector" (preparation and serving of food outside private homes). According to Danish and Finnish statistics one third of all food is served within the hospitality sector, meaning that it is important also when it comes to fighting avoidable food waste in society. The report contains a thorough description of this sector in each of the four Nordic countries Denmark, Finland, Norway, and Sweden. The analyses conclude with a best estimate for total avoidable food waste in the four countries of 456,000 tons, e.g. about 18kg/ inhabitant. The differences between available reports underline a need for better statistics, including better definitions and reporting systems. Prevention of avoidable food waste is an important environmental issue. The report describes initiatives taken both by Governments and operators in the market. Both EU and some countries are also about to define reduction targets on avoidable food waste. Many operators within the hospitality sector are active as well in order to reduce their avoidable food waste, both in order to reduce their costs and reduce the environmental impacts of food that is not eaten by humans. The report concludes that new instruments are needed in order to meet overall avoidable food waste targets, to reduce environmental negative impacts and obtain benefits for society. The report proposes that national instruments might be reinforced and coordinated on a Nordic level.

*Types of implications:* food waste generation; food waste reduction.

*Food supply segments involved/addressed:* food preparation and consumption.

**Stenmarck, Å., Hanssen, O., Silvennoinen, K., Katajajuuri, J. & Werge, M. 2011. Initiatives on prevention of food waste in the retail and wholesale trades. TemaNord, Volume 548, 2011, Nordic Council of Ministers**

This project was initiated by the Nordic Council of Ministers and its waste prevention group. The background to the project is that waste prevention is the highest priority in the waste hierarchy according to the EU Waste Directive. One other reason is the heavily increasing discussions in society on food waste in general. The project has been focusing on amounts of food waste, causes for food waste generation and initiatives to reduce the amounts of food waste from the retail and wholesale sector. Furthermore it gives some recommendations to measures that could be taken to change the present situation.

*Types of implications:* food waste reduction.

*Food supply segments involved/addressed:* wholesale, logistic, retail and marketing.

**Sundt, P., Marthinsen, J., Syversen, F., Kaysen, O. & Kirkvaag, K. 2011. Nordic information campaign regarding food waste prevention - preliminary study. Nordic Council of Ministers/Mepex Consult AS.**

The report describes possible further initiatives and instruments in order to reduce the amount of avoidable food waste within the hospitality sector in the Denmark, Finland, Norway and Sweden. The guide linked to the report includes practical advices for the operators within the hospitality sector. The report and the guide are partly based on information gathered from interviews and a survey undertaken in the four countries in

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January 2012.

*Types of implications:* food waste management; food waste reduction.

*Food supply segments involved/addressed:* food preparation and consumption.

All reports consider only edible food waste in accordance with the FUSIONS definitions and include not production waste or other types of inedible food waste. They all date between 2011, 2012, 2013.

## **F) Communications and campaigns**

### **Food Consciousness (Matvett)**



Launched in 2012 and promoted by Matvett Ltd, which is a company established by the food industry and retail sectors in Norway to operate the ForMat project and organize campaigns

towards target groups in the Norwegian society. The main target groups are citizens, schools, the food industry and retailers through presentations, lectures, workshops.

#### **Box 0.1 Initiatives and tools developed through the ForMat project**

- Matvett.no: recipes, advice and facts about food waste – Main target groups – citizens Restetorsdag (Left over dinners-tip each Thursday via social media). The main target group is citizens.
- Matkastebordet: Food Wastage Table (Exhibition of how much food a Norwegian throws away in one year) – The main target group is citizens thorough the exhibition of food in food festivals, music festivals, other arrangements.
- Matsvinn.no: tools for measuring and reducing food waste and advice for industry and retailers, best practice examples, reports. Networking between industry and retail in order to increase communication and reduce food waste in the interface between the two segments in the value chain.

A number of measures and initiatives have been promoted through the ForMat-project:

- Several food producers have changed food durability labeling from “Use by” to “Best before” dates for certain dairy and meat products.
- A Food Bank has been established in Oslo in September 2013 to take care of food from manufacturing companies, wholesale warehouses and retail companies.
- Changes to smaller units of packaging have been introduced to adjust amounts to smaller households.
- Changes in the allocation of shelf life of fresh products between actors in the food chain so that a larger part of the shelf life is given to retail and consumers.

*Types of implications:* food waste management; food waste reduction; optimization of food use.

*Food supply segments involved/addressed:* processing; wholesale, logistic, retail and marketing; food preparation and consumption.

## **G) Projects and other measures**

### **ForMat project**

Business-driven innovation and implementation project with research activities related to monitoring of food waste in Norway and development of networking models for preventing food waste in the whole value chain. It is organised through Matvett AS and is funded by the business sector as well as 5 Ministries involved in food waste prevention. Ostfold

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Research is scientifically responsible for the work carried out.

*Types of implications:* food waste management; food waste reduction.

*Food supply segments involved/addressed:* all.

### **Food Waste Prevention project**

Funded by the Norwegian Research Council (Food program) and carried out by Ostfold Research, Nofima and SIFO, its main objective was to develop in-depth knowledge about where food waste is generated in the food chain, which types of food is mostly wasted, and why, and to develop solutions for prevention. The project was finalized 31.12 2013 with a workshop in Oslo in collaboration with the FUSIONS project.

*Types of implications:* food waste generation; food waste management; food waste reduction.

*Food supply segments involved/addressed:* all.

### **GreenPack and Breadpack projects**

GreenPack and Breadpack aimed at the improvement of packaging materials and solutions vegetables and fresh bakery products respectively. GreenPack is a collaboration among producers and packers of vegetables, trading companies, packaging producers and research organisations (Norner Innovation, Nofima and Ostfold Research). The same type of consortium has been established for BreadPack, where the main partners are bakeries, packaging producers, Matvett As and research organisations (PFI, Nofima and Ostfold Research).

*Types of implications:* food waste reduction; optimization of food use.

*Food supply segments involved/addressed:* wholesale, logistic, retail and marketing.

There are no special educational programs on food waste prevention in Norwegian Universities or High schools, however food waste is an important topic in the curricula of the Food Science and Renewable Energy Master programs organized at the Norwegian University of Life Sciences.

## **H) Food waste policy mix: highlights**

The overarching goal of the Norwegian food waste policy-mix is to reduce the amount of food waste which is produced on a whole and to recycle it. However Norway has not implemented a specific strategy or national plan for food waste reduction. Food waste reduction is a key element - together with biogas production from organic waste – of the National Waste Management and Prevention Plan "From Waste To Resources". The Plan was launched in August 2013 by the Ministry of Climate and Environment.

The most important regulations are related to: Food labelling (The Norwegian Food Labeling Regulations No 1385), Food hygiene (The Norwegian Food Hygiene Regulations (Nos 1622 and 1623), on pollutions and waste (Pollution Act of 13th March 1981 No 6) and the ban on landfilling.

In Norway, it is a long-term practise to use the Extended Producer Responsibility approach and negotiated agreements between the Government and relevant sectors to set goals and ambitions for waste management and prevention. Therefore no specific regulations and fiscal mechanisms have been developed. A specific negotiated agreement on food waste between the Government (including several Ministries) and the whole food sector is under development and will probably be established early in 2015.

The Food Consciousness campaign is part of the main communication campaign promoted by Matvett Ltd, which is funded by a combination of private sector and state organizations

working within both the food and beverage industry and environmental protection.

Figure 1. Norway's Policy Mix at December 2014



\* A full voluntary agreement is foreseen for 2015.

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## REFERENCES

### A) NORWAY'S NATIONAL PLAN/STRATEGY ON FOOD WASTE REDUCTION

From Waste To Resources

Available at: [http://www.regjeringen.no/pages/38416619/T-1531\\_web.pdf](http://www.regjeringen.no/pages/38416619/T-1531_web.pdf)

Matvett

Available at: <http://matsvinn.no/>

### B) MARKET-BASED INSTRUMENTS

none

### C) REGULATORY INSTRUMENTS/REGULATIONS TRADING SCHEME

Norwegian Food Labeling Regulations of 21 December 1993 No 1385 implementing amongst others Directive 2000/13/EC on the labeling of foodstuffs

Available at: <http://norden.diva-portal.org/smash/get/diva2:790885/FULLTEXT01.pdf>

The Norwegian Food Hygiene Regulations of 22 December 2008 Nos 1622 and 1623 implementing Regulations (EC) Nos 852/2004 and 853/2004 on food hygiene

Available at: <http://www.handboka.no/Dok/EOS/ved01.pdf>

Pollution Act of 13th March 1981 No 6

Available at: <https://www.regjeringen.no/en/dokumenter/pollution-control-act/id171893/>

Ban on landfilling July 1<sup>st</sup> 2009

Available at: <http://www.environment.no/Topics/Waste/>

### D) VOLUNTARY AGREEMENT

None

### E) RESEARCH AND TECHNICAL REPORTS

Hanssen, O. J., Schakenda, V. (2011). Status and trends for avoidable food waste in Norway 2011. Report Ostfold Research OR 37.10. ISBN 978-82-7520-655-6.

Available at: [www.eu-fusions.org/.../download?...report...food](http://www.eu-fusions.org/.../download?...report...food)

Hanssen, O.J. & Møller, H. (2013). Status and trends for avoidable food waste in Norway 2010-13. Report Ostfold Research OR.

Available at: <http://www.fao.org/fsnforum/cfs-hlpe/sites/cfs-hlpe/files/resources/Food%20Waste%20in%20Norway%202013%20-%20Status%20and%20trends%202009-13.pdf>

Hanssen, O.J., Skogesal, O., Møller, H., Vinju, E. & Syversen, F. (2013). Food Wastage from Norwegian households – Report to the Environmental Protection Agency. Ostfold Research Report OR 38.13

Available at: <http://www.miljodirektoratet.no/Documents/publikasjoner/M102/M102.pdf>

Examples regarding the Nordic countries (including Norway):

Franke, U., Einarson, E., Andrésen, N., Svanes, E., Hartikainen, H. & Mogensen, L. 2013. Kartläggning av matsvinnet i primärproduktionen. TemaNord, Volume 581, 2013, Nordiska ministerrådet (Summary and appendixes in English (pages 47-85)).

Available at: <http://www.norden.org/sv/publikationer/publikationer/2013-581>

Marthinsen, J., Sundt, P., Kaysen, O. & Kirkevaag, K. 2012. Prevention of food waste in restaurants, hotels, canteens and catering. TemaNord, Volume 537, 2012, Nordic Council of Ministers.

Available at: <http://www.ostfoldforskning.no>

Stenmarck, Å., Hanssen, O., Silvennoinen, K., Katajajuuri, J. & Werge, M. 2011. Initiatives on prevention of food waste in the retail and wholesale trades. TemaNord, Volume 548, 2011, Nordic Council of Ministers.

Available at: <http://www.norden.org/sv/publikationer/publikationer/2012-537>

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Sundt, P., Marthinsen, J., Syversen, F., Kaysen, O. & Kirkvaag, K. 2011. Nordic information campaign regarding food waste prevention - preliminary study. Nordic Council of Ministers/Mepex Consult AS. Available at: <http://www.norden.org/sv/publikationer/publikationer/2011-548>

#### **F) COMMUNICATION AND CAMPAIGNS**

Matvett (Food Consciousness)

Available at: <http://www.matmett.no>

<http://www.matsvinn.no>

#### **G) PROJECTS AND OTHER MEASURES**

ForMat project

Available at: <http://www.matmett.no>

Food Waste Prevention project

Available at: <http://www.sustainable-everyday-project.net/urbact-sustainable-food/2013/07/10/reducing-food-waste-in-norway>

GreenPack and Breadpack projects

Available at: <http://greenpack-project.eu>

All links cited in the references have been accessed for the last time on February 3, 2016.

FUSIONS - Food Use for Social Innovation by Optimising Waste Prevention Strategies

