Our consortium in the EU platform

- Network of three companies;
  1. **Matvett** works with food waste prevention and reduction on behalf of the food sector in Norway and coordinates the consortium and the platform membership
  2. **Ostfold Research** is a research institute in environmental systems analyses and sustainable innovation. Scientific responsible for monitoring edible food waste in the whole food chain and has been involved in the Nordic Council's projects on date labelling and redistribution and the FUSIONS project.
  3. **Nofima** is a national food research institute covering main areas for food waste such as raw materials, food processing, packaging, food safety, shelf life, hygiene and consumer science.

Matvett
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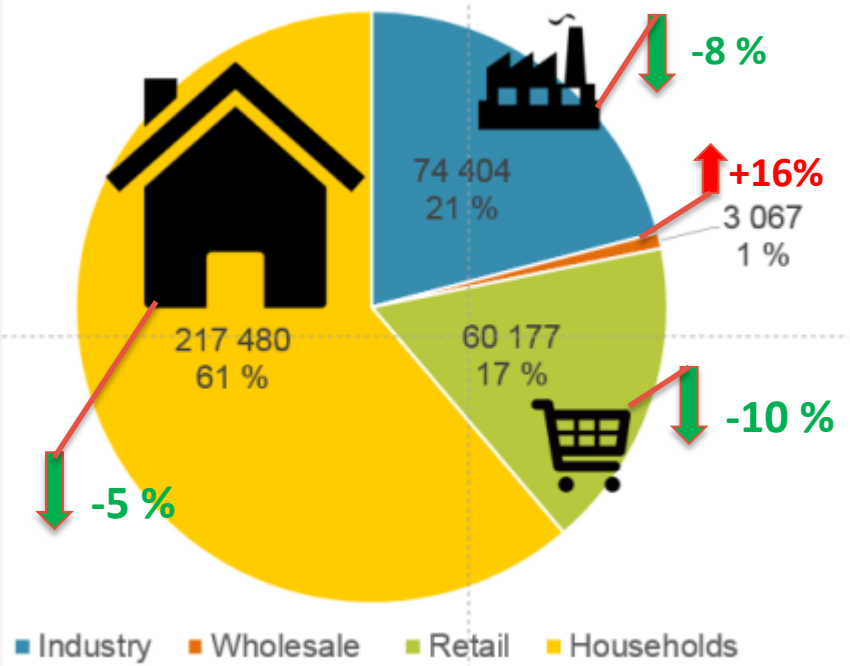
The Norwegian model started with the ForMat-project 2010-2015

The «Norwegian model» is based on:

- Initiative from the food sector
- Private – public partnership
- Collaboration within the value chain
- Systematic monitoring of food waste since 2010
- Sharing of food waste data by manufacturers, wholesalers and retail chains

Food waste 2010-2015: -12 %



«ForMat brings players in the value chain together and is an effective arena for solving common challenges to fight food waste». **-Managing director, food manufacture**

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Negotiated agreement signed june 2017

Key elements:

- Voluntary agreement
- Reduction targets in line with SDG 12.3
- Methods for measuring and reporting food waste
- Private and public initiatives across the value chain, including consumers

- *We will reduce the food waste with 50 %*

– collaboration between businesses and authorities is the key.

- Vidar Helgesen, Minister of Climate and Environment

More than 60 companies have signed and joined the Voluntary agreement

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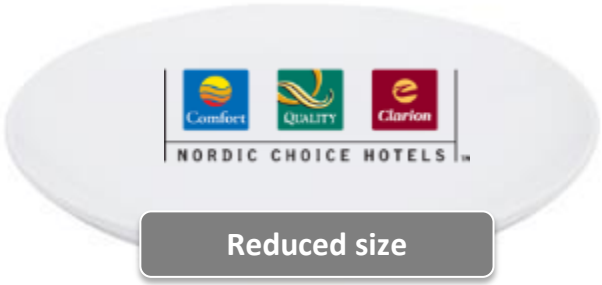
Examples of initatives

«Best-before»

Social responsability



Reduced size

Sell, don't throw away

Alternative labelling

Discount

Wholesaler – surplus food

Producers and retailers

Hospitality

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Reduction of food waste by packaging

VEGHEL, 1.-2. OCTOBER 2018

Anlaug Ådland Hansen[1], Marit Kvalvåg Pettersen[1], Simon Saxegård[2], Hanne Møller[2], Hanne Larsen,[1]

[1]*Nofima AS, Norway,* [2]*ØstfoldResearch, Norway*

Reasons for Food waste at consumers

2015

- Expired
- Improper product quality
- Parts of the product is damages
- Incorrect/not optimal storage of the product at home or during transportation
- Too much of the product is left in the packaging
- The product is damage or lost its quality due to poor packaging

Photos: Marit Kvalvåg Pettersen

Sources: : ØstfoldResearch /»ForMat Report»

Nofima

Consumers opinion

Photo: Marit Kvalvåg Pettersen

«I'm always looking for unpacked vegetable»

«I do not understand why each individual broccoli should be wrapped .»

«Really, why not have all the vegetable presented just in bulk?»

Type of food - as food waste

Pot/plate remains : 30.9%

Fruit/Vegetables: 26.8%

Bread: 13.1%

Sources: Østfoldforskning/ »ForMat Report»

Nofima

Optimalt:
4°C – dark for 16 days

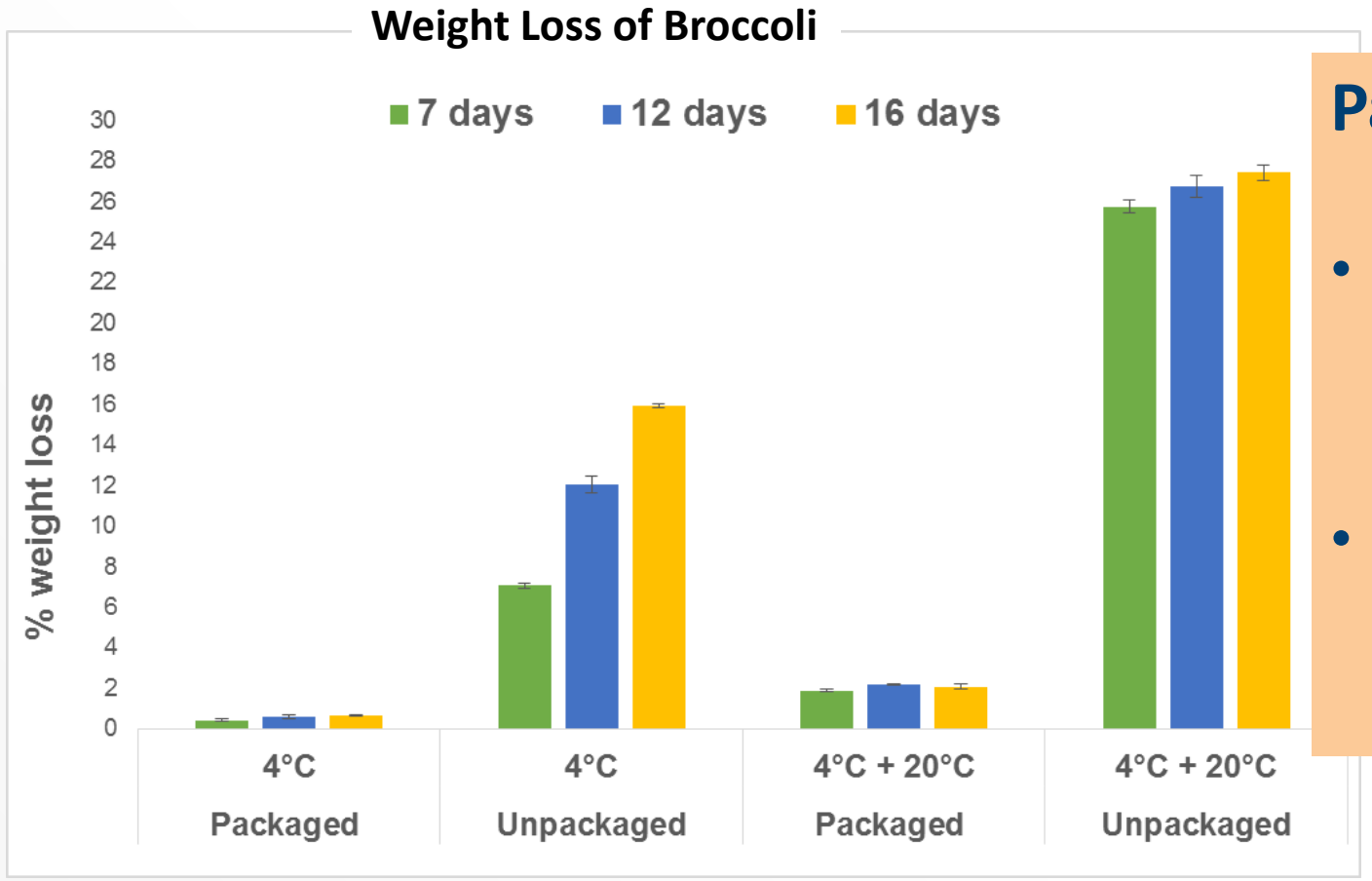
Realistic:
4°C (dark) 4 days +20°C (light)
3 days + 4°C (dark) 9 days

Packaged:
Good Colour
Low weight loss
Firm

Unpackaged:
Slightly yellow
Weight loss resulting in soft texture and loose bouquets

Nofima

Quality of broccoli



Large weight loss for unpackaged broccoli

Packaging

- Reduced weight loss
- Preserve Texture - firmer head

4°C and dark for 16 days

4°C (dark) 4 days + 20°C (light) 3 days + 4°C (dark) 9days

Assessed by: Hanne Larsen

Optimalt:
4°C – dark for 16 days

Packaged:
Fresh and Firm
Some faded and soft leaves

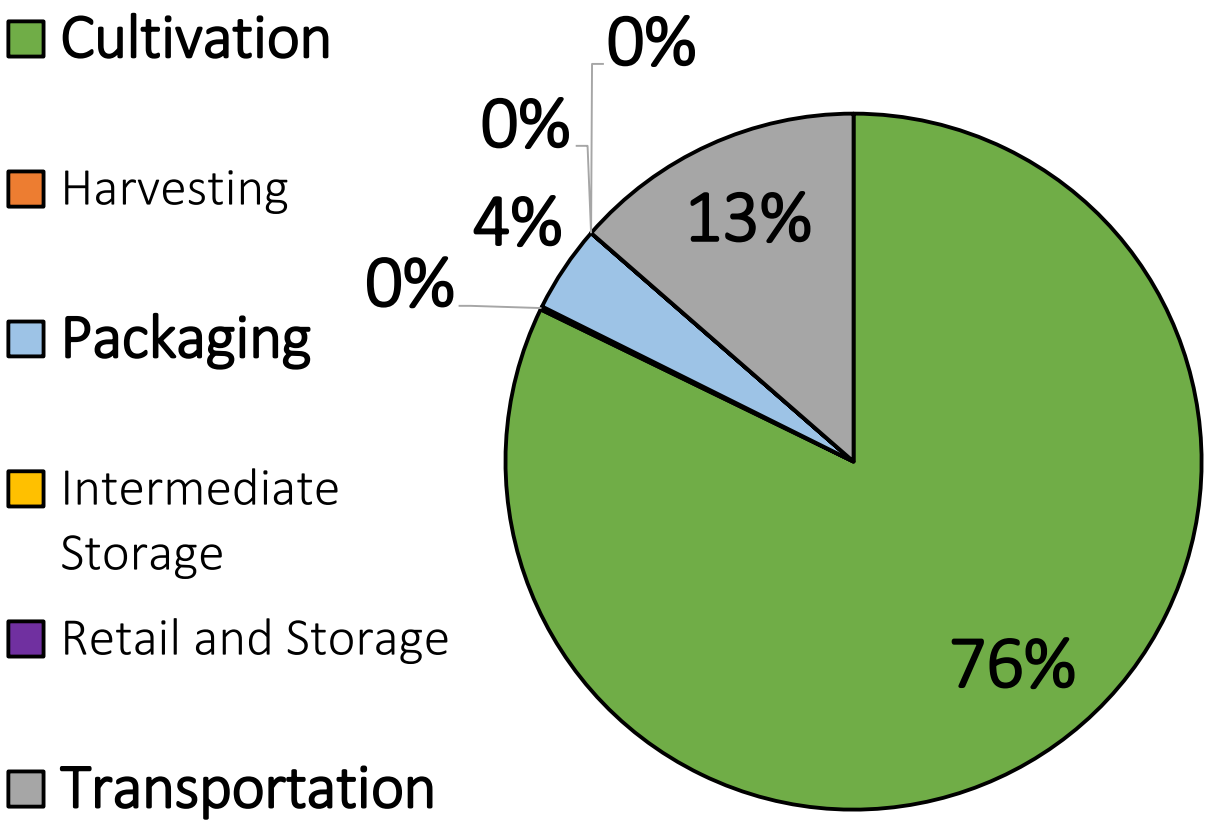
Realistic:
4°C (dark) 4 days +20°C (light)
3 days + 4°C (dark) 9 days

Unpackaged:
Yellow colour
Lot of faded and soft leaves
Soft texture
Loose bouquets

Nofima

Distribution of greenhouse gas emissions cauliflower

Distribution Greenhous Gas Emission for wastes cauliflower



Assessed by:
Simon A. Saxegård

Packaging alternatives for packaging of ground beef

MAP with Low Oxygen packaging (CO_2/N_2)

MAP with High Oxygen packaging (O_2/CO_2)

Oxygen permable wrapping

Velzen & Linnemann, 2008

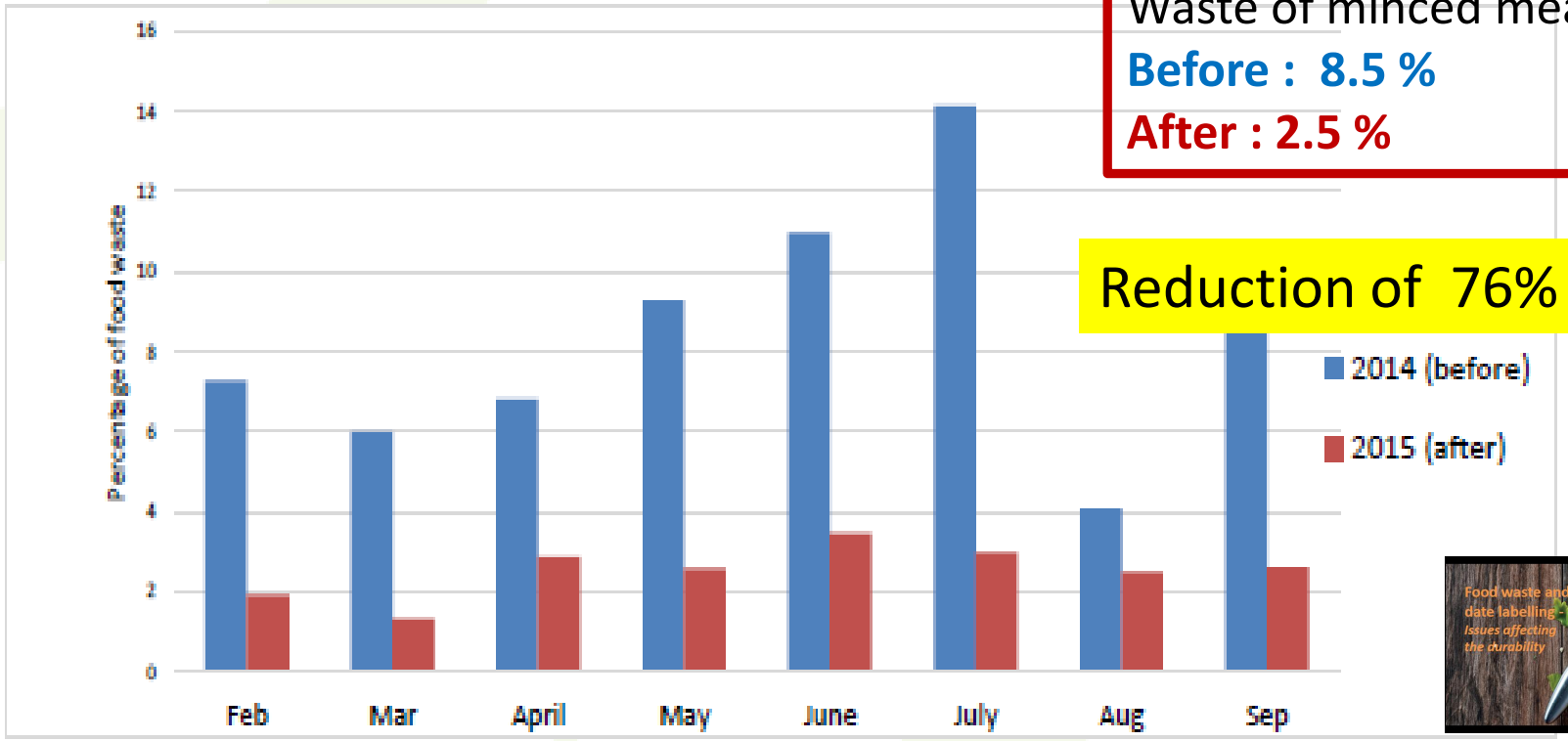
Nofima

Packaging method– and food waste

Minced meat –

mean values per month of food waste (%)

before and after the change of packaging gas



Waste of minced meat:

Before : 8.5 %

After : 2.5 %

Reduction of 76%

Source: Hanne Møller,

Nofima

ACKNOWLEDGMENT
Results and presentation based on Research Projects - Food Waste

Innovation Project for the Industrial sector funded by The Research Council of Norway

Project/ Report funded by The Nordic council of Ministers

Nofima