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fpe FLEXIBLE PACKAGING EUROPE

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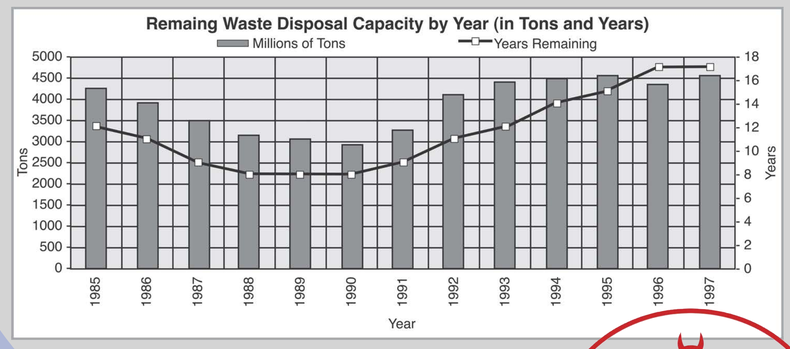
PACKAGING – FROM SINNER TO SAINT IN JUST 20 YEARS!

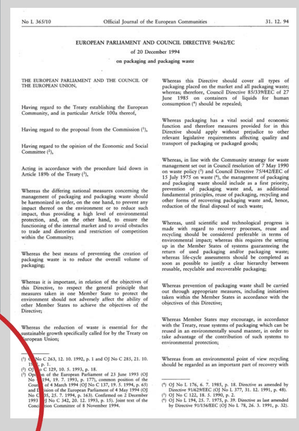
A Resource Efficiency story about the gradual absolution of packaging as it is increasingly recognized for the role played in helping society to manage its resources more efficiently.

THE RECENT PAST – PRE 1990



Running out of landfill space (1990s)

1994 The Packaging & Packaging Waste Directive (94/62/EC)



'The Packaging Directive' is concerned with minimising the creation of packaging waste material and promotes energy recovery, re-use and recycling of packaging. The Directive has both single–market and environmental goals ...

20 years later, a whole lot of progress ...

ENTER THE SAINT

"To meet the increasing demand from a growing population we will need to produce more food in the next 40 years than has been produced in the previous 8,000 years."

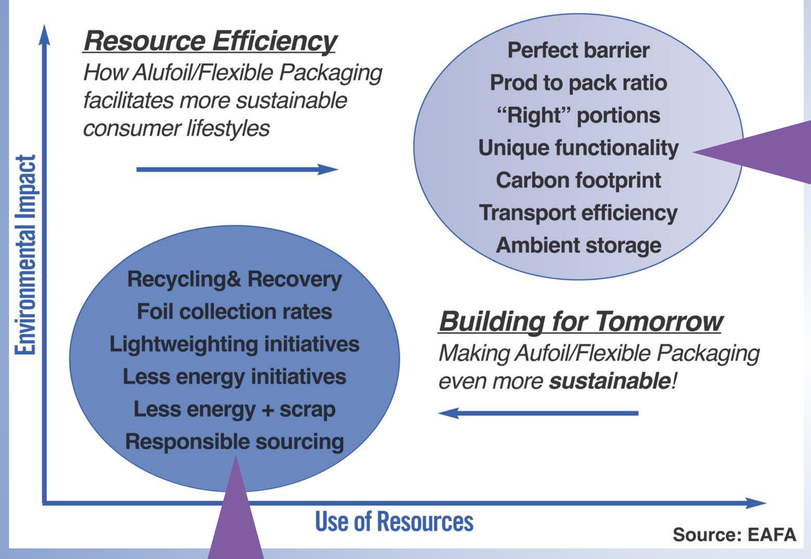
Jason Clay, Senior Vice President WWF

"The UN FAO has said food production will need to increase by 70% by 2050. 50% of this could come from reducing food waste."

Janez Potocnik, EU Commissioner for the Environment

SUPPORTING A RESOURCE EFFICIENCY AGENDA

The Alufoil & Flexible Packaging Sustainability Framework



Packaging becomes part of the solution to reducing food waste!

The European Parliament considers that (by 2025) … **"the optimisation and efficient use of food packaging can play an important role in preventing food waste by reducing a product's overall environmental impact ..."** 19 Jan 2012

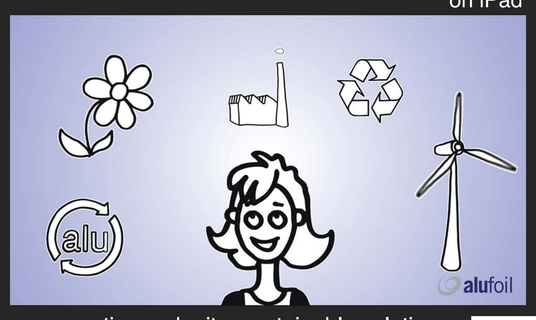
2011 EAFA & FPE joint sponsor UNEP/ SETAC Life Cycle Initiative: Value of a Life Cycle Approach to Food & Beverage Packaging

2012 EAFA & FPE join FAO Save Food initiative

2013 EAFA & FPE co-signatories for Food Wastage Declaration "Every Crumb Counts" campaign

More is Less Video

on iPad



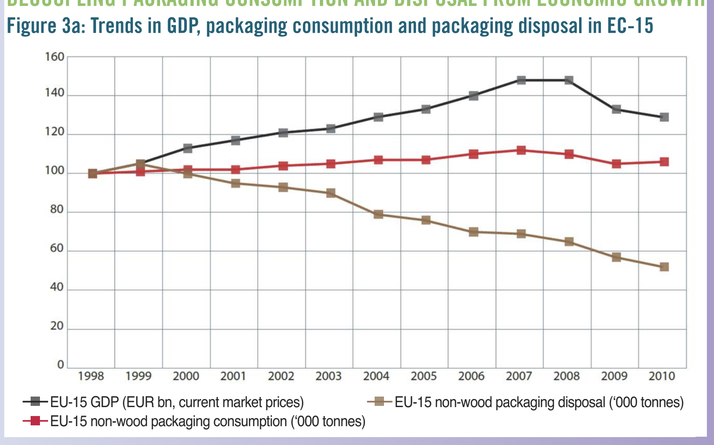
Foil's unique properties make it a sustainable solution to many packaging dilemmas. This animated video demonstrates the need to assess the impact of packaging in the context of the resources it protects.

http://www.alufoil.org/movie-channel.html

MORE (PACKAGING) IS LESS (FOOD WASTE)

DECOUPLING PACKAGING CONSUMPTION AND DISPOSAL FROM ECONOMIC GROWTH

Figure 3a: Trends in GDP, packaging consumption and packaging disposal in EC-15

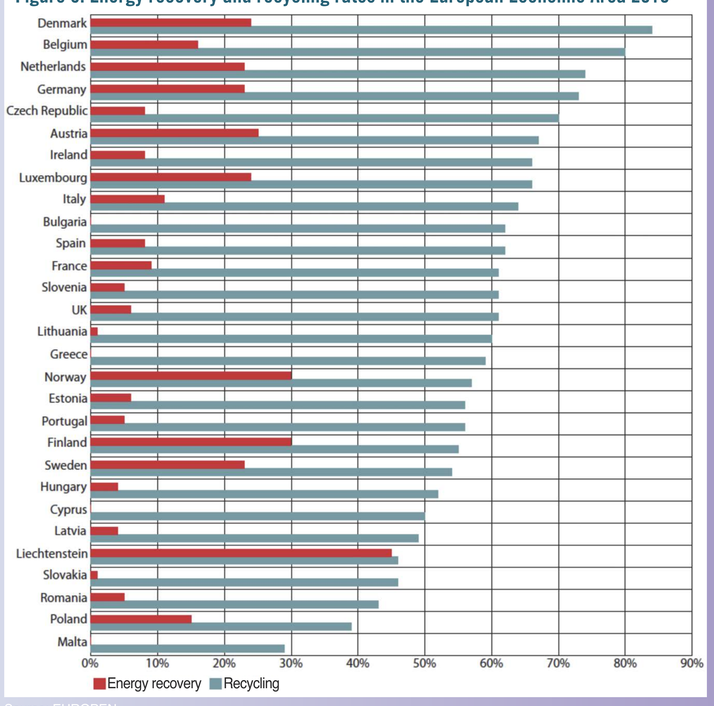


Average EU15 recycling and recovery rates increased by more than 50% from1998 to 2010

Packaging sent to final disposal reduced by 52% between 1998 and 2010

Average EU15 packaging recycling rate of 65% and overall recovery rate of 79% in 2010

Figure 5: Energy recovery and recycling rates in the European Economic Area 2010



Source: EUROPEN

EAFA & FPE full lifecycle LCA studies – Saving Food and Reducing Food Waste

Soup: ambient stable soup packed in a pouch

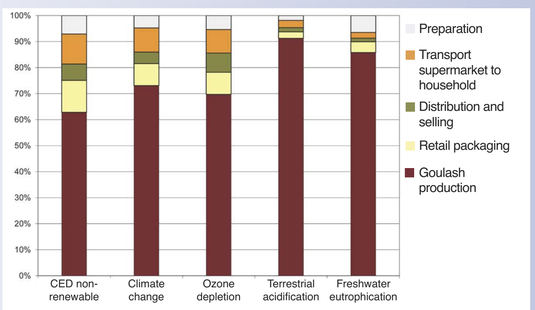


Figure 1: Results of the standard case per packaged ready-to-serve goulash soup for the five indicators considered. The results are scaled to 100%

The (flexible) packaging is a relatively small part of the overall product use environmental impact

Source: ESU-services GmbH

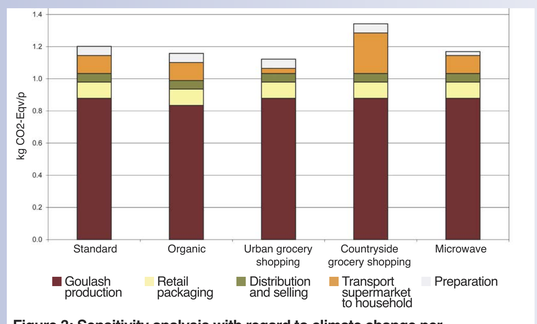


Figure 3: Sensitivity analysis with regard to climate change per packaged ready-to-serve goulash soup. Shown in absolute values

Wine: aluminium screw closures for wine

Effective product protection reduces food waste

Objectives

- Analyse the influence of different closures systems on environmental impacts of wine through the evaluation of loss rates of bottled wine
- Discuss the implications of loss rates in terms of environmental performance depending on the closure system

Two selected closure systems: **cork stoppers** and **screw caps**

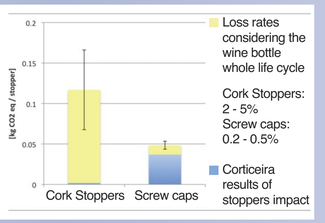
Impacts of closure systems are directly taken from a study (Corticeira Amorim SGPS SA 2008)

Key observation:

Wine losses are estimated to be: 2% - 5% for cork stoppers and 0.2% - 0.5% for screw caps.

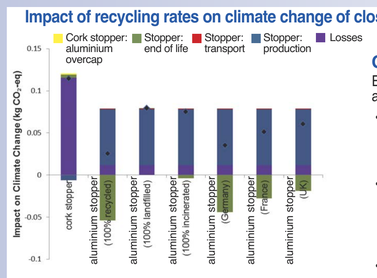
Key conclusions:

- **Impact of wine lost is more important than the closure itself in the case of cork stopper**
- **The aluminium screw cap reduces food waste!**



Source: Quantis SA

Impact of recycling rates on climate change of closures and wine loss



The base case used by the original Corticiera study was the UK (35% recycling).

Note: Results were directionally similar for the other impact categories assessed.

	DE	FR	UK
Recycling	80%	50%	35%
Landfilling	0%	24%	65%
Incineration	20%	26%	0%

Conclusions:

End of life scenarios of aluminium wine closures

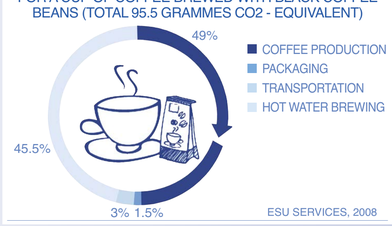
- Recycling rate is a key parameter regarding the total environmental impact
- Incineration is less impactful than landfilling due to energy recovery (e.g. 11% less impact on ecosystem quality)
- Germany has the lowest environmental impact due to high recycling rates (80%), followed by France (50%)

Coffee: coffee pouches v coffee stick packs

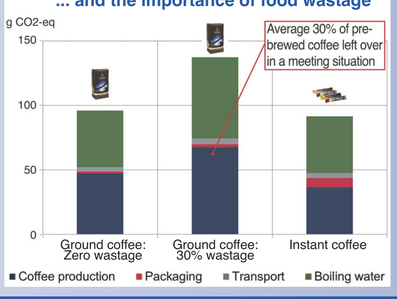
Carbon footprint of a cup of coffee ...

- Cup of coffee from 500g bag (PET12/alu/PE100)

LIFECYCLE GREENHOUSE GAS EMISSIONS FOR A CUP OF COFFEE BREWED WITH BLACK COFFEE BEANS (TOTAL 95.5 GRAMMES CO2 - EQUIVALENT)



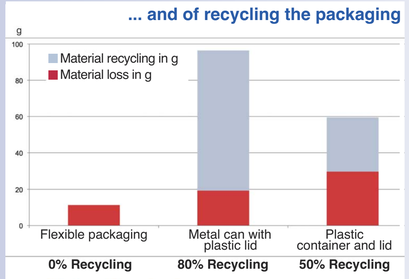
... and the importance of food wastage



Effective portioning via smart packaging reduces food waste

Source: ESU-services GmbH

... and of recycling the packaging



Source: www.flexpack.org

Ready Meals: ready-to-eat lasagne v home-cooked equivalent

Packaging can add value through convenience, reduced waste without increasing the overall environmental impact

Objectives

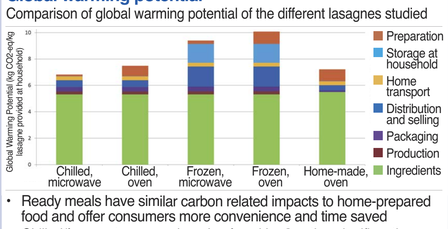
- To compare ready-meal production (scale) with the home-prepared equivalent
- To show that the impact from foil packaging and convenience is offset by relative energy reductions and lower food waste for ready meals like lasagne

NB: Use of real factory data underwrites overall quality of the study and findings

READY MEALS V HOME COOKED

Global warming potential

Comparison of global warming potential of the different lasagnes studied

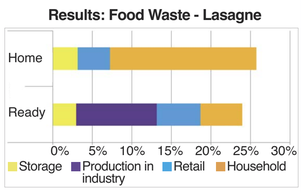


- Ready meals have similar carbon related impacts to home-prepared food and offer consumers more convenience and time saved
- Chilled/frozen storage and mode of cooking/heating significantly influence the overall GWP

Key observations

Food Waste:

- No available data to differentiate quantities of food used for preparation in retail regarding food bought in supermarket for preparation at home. i.e. the same quantity of ingredients was used for both lasagnes



- Retail food waste due to "sell by date" for chilled & frozen ready meals higher than anticipated (circa 5%)
- Lack of "good" data on food wasted in home during preparation, cooking and storage – No benefit from portioning!

Conclusion

"In terms of the environmental performance, there is no significant difference between chilled ready-to-serve lasagne and home-made lasagne."

… ESU Services

Source: ESU-services GmbH