



Department  
for Environment  
Food & Rural Affairs

# Fees as Drivers of Packaging Choices

A presentation and discussion

13 December 2023

## Aim of today's session

- To present our research on the drivers of packaging design choices
- To present our preliminary work on a Fee Impact Analysis Tool (FIAT)
  - Complex decision-making setting – numerous drivers interplay, difficult to understand intuitively
  - Enable quantification of likely effects before the action is taken
  - Will help the Scheme Administrator understand the likely effect of different price signals on business decisions about packaging
  - Won't **make** the decision – it's a decision support tool
- To obtain your feedback and any offers of support in improving this tool

# Engagement in autumn 2023

---

- Consultation on the draft Statutory Instrument (Packaging EPR Regulations)
- The relationship between the Recyclability Assessment Methodology (RAM) and the early years of modulated fees
- Progress on the RAM
- Materials shortlisted for higher fees under the fee modulation provision
- Moving beyond recyclability – which criteria and how fast
- Strategic requirements for packaging data and how that might influence the categories of packaging reported by producers
- Participatory design work on the Scheme Administrator's functions
- We'll communicate the outcomes of this work early in the new year
- Today we start to focus on the **approach** to setting modulated fee rates



Department  
for Environment  
Food & Rural Affairs

# Business drivers of packaging choices

Martina Di Fonzo

Fees and Payments Calculator Team

4



---

# Packaging EPR fees: Base Fees

- There will be eight fee rates for 2025/26 (year 1 of EPR)

paper & card	fibre-based composites
plastic	aluminium
steel	glass
wood	'other'
- Any differences in fee rates simply reflect differences in LA net disposal costs across the eight materials, e.g.

$$\text{Plastic base fee} = \frac{\text{Total net LA cost for plastic}}{\text{Total plastic tonnage POM}}$$

# Packaging EPR fees: Modulated Fees

- From 2026/27 (year 2 of EPR) fees will be adjusted (modulated).
- In the early years, modulation will reflect recyclability, ensuring against any unintended outcomes. Modulation will be extended to include wider environmental criteria in the future.
- Fee rates for more recyclable packaging will be lower than less/non-recyclable packaging of the same material type to incentivise producers switching to these.
- The full set of modulated fees will be set to cover overall disposal fee costs – some packaging will receive an increase above the base fee, others will be charged a lower fee.
- The scale of the modulation will initially be set by the four nations, and later by the Scheme Administrator.

# Understanding business drivers

- We commissioned Verian (formerly Kantar) to tell us about the drivers of, and barriers to, eco-design of packaging
  - 31 interviews with UK trade associations, brand owners, sellers, distributors and packaging materials manufacturers interviews across sectors and products.
  - Online focus groups, each based on a different type of packaging material: metal, fibre-based composite (FBC), glass, plastic, ceramic and two groups of mixed-materials.
- As this was a small sample, we want to check in with you today to make sure nothing has been missed

## Findings (1/7): Functionality

- Maintaining an optimal environment for ensuring **quality** and **safety** during storage, transportation, display and consumer use
- Physical properties are key
- Design depends on:
  - form of the product e.g. liquid
  - product ingredients e.g. reactivity
  - what the product needs to be protected against e.g. odours, light
  - how the product will be used

## Findings (2/7): Regulation

- Sector-specific regulations to ensure **safety** e.g.
  - **Medicines and Healthcare Products Regulatory Agency (MHRA) regulations**

Enforce strict standards on the packaging of medicines

Require medicine in its packaging to go through re-certification if the design is updated.
  - **Food Standards Agency (FSA) regulations**

All packaging material in contact with foods must be food-grade so that they will not contaminate or affect the quality of the food

Stakeholders reported that this was a major barrier to increasing recycled plastic content in food and drink packaging.

---

## Findings (3/7): Corporate environmental goals

- Internal environmental policies, sometimes with targets, to reduce the environmental impact of packaging
- The specific nature of targets affected packaging design choices
- Trade-offs e.g.:
  - Recyclability vs. carbon footprint
  - Recyclability vs. reducing plastic content

## Findings (4/7): Corporate structure & supply chains

- Organisations don't control every aspect of packaging choice
- Policies in other countries may influence design choices; varying packaging for different markets isn't always feasible so design can be based on the most restrictive regulations
- Organisations may have limited influence if they rely on supply chain to make changes to packaging design e.g. retailers selling products in generic packaging with custom branding

## Findings (5/7): Costs

- Influences format and material choices
- Production costs are key
- Re-design can involve expensive changes at production sites e.g. to machinery
- Stakeholders mentioned that:
  - glass moulds are so expensive that design is only feasible when the mould reaches the end of its life
  - switching lids from difficult-to-recycle PET-G (polyethylene terephthalate glycol) to recyclable polypropylene would mean investing in new tooling and processing equipment

## Findings (6/7): Material availability

- Driven by rules of supply and demand
  - Use of a material can be prevented if there is not enough supply
  - Shortage of supply drives up prices, including PRN prices
- Plastic Packaging Tax
  - Key driver of demand for recycled plastic
  - Virgin polymer is comparatively cheap so it can be more cost effective to use virgin and pay the tax
- Global markets
  - Strong overseas demand has led to current shortage of recycled glass

## Findings (7/7): Customer preferences

- Rise in negative perceptions of plastic (the 'Attenborough effect') has caused some organisations to switch away from plastic
- Some approaches to eco-design can lead to perceived loss of product value and so an unwillingness to pay the price compared to similar products that haven't been eco-designed e.g.
  - Lightweighting of packaging on premium products
  - Concentration of product e.g. detergents

Which are the most critical drivers of packaging design **for your business?**



Poll 1



## Webinar Audience Poll: Which are the most critical business drivers?

Functionality	17%
Regulation	15%
Corporate environmental goals/targets	11%
Business and supply chain structure	7%
Cost	20%
Material availability	9%
Customer preference/demands	12%
Something else	1%
All are equally important	7%

**139 responses**

# Why does this matter?

- Complex packaging design landscape
  - Decisions depend on complex but often unique supply chain, regulatory and policy circumstances;
  - Producers faced with having to make trade-offs across choice drivers in very competitive market conditions
- Scheme Administrator will need to understand and take account of these complex contexts in setting modulation rates that effectively drive the desired changes
- We have used this insight to create a tool that simulates the effect of different fee levels on packaging design choices
- We have started conceptual work but now need your input



Department  
for Environment  
Food & Rural Affairs

# Fee Impact Analysis Tool (FIAT)

## Simulating packaging design strategies using scenario-based analysis

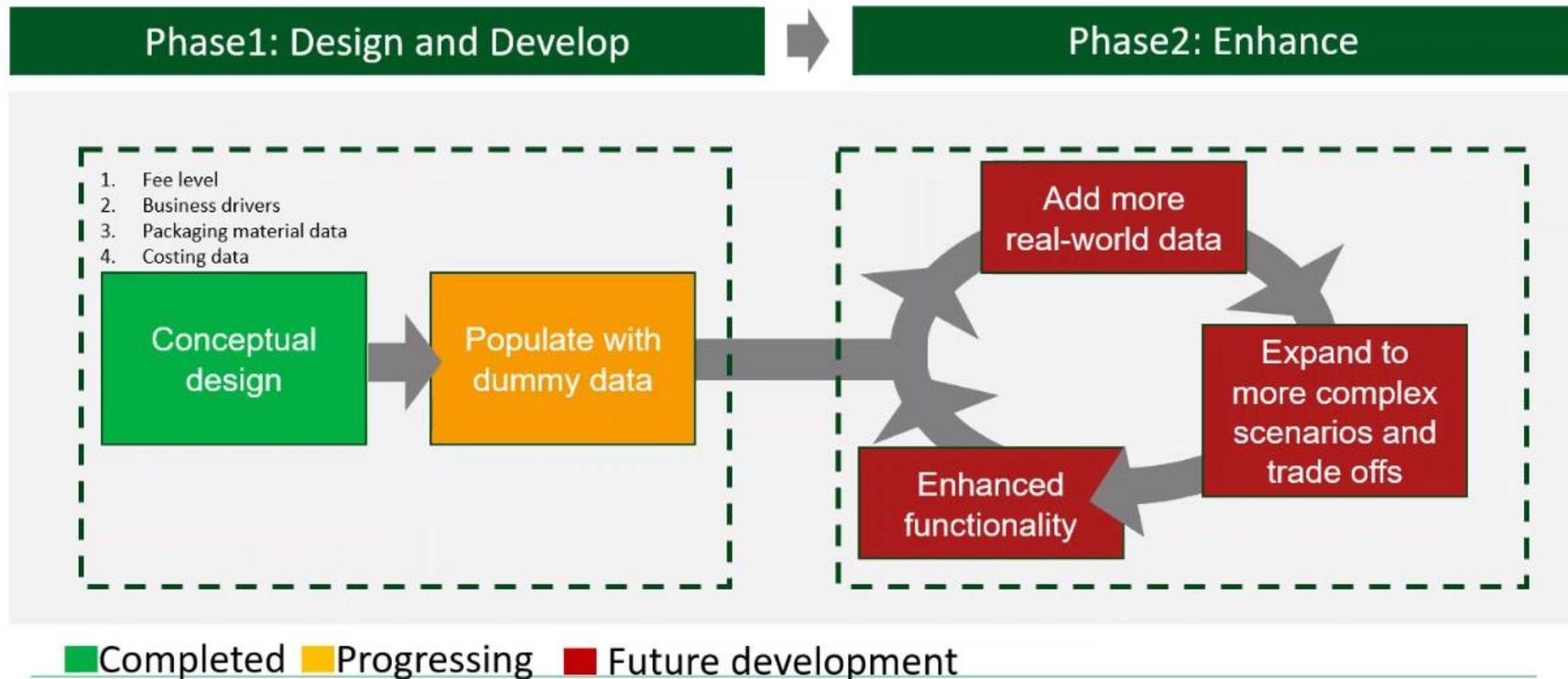
Munzer Maraqa

Fees and Payments Calculator Team

# Objectives of the tool

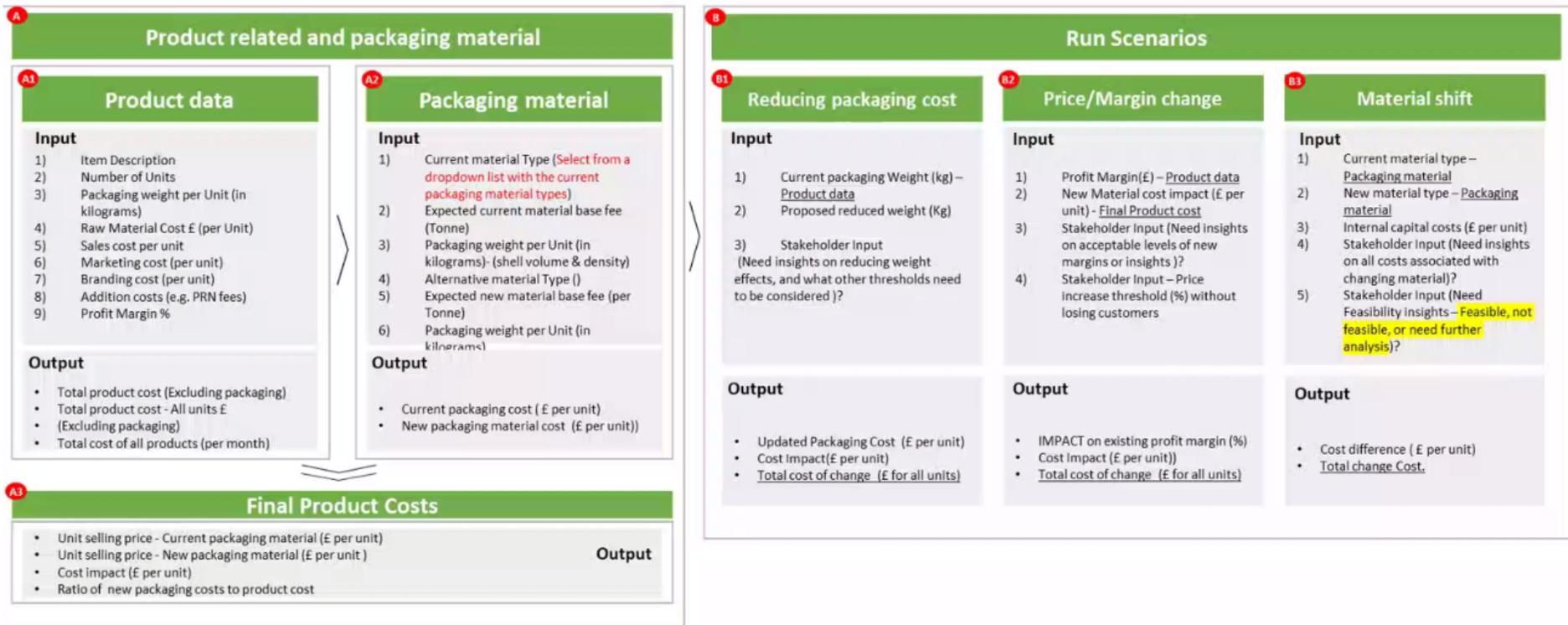
- Quantitatively understand likely effects of different types and levels of fee, taking account of the different business drivers mentioned previously to:
  - Assess how to use the modulation mechanism to influence producer decisions for each packaging material/format
  - Avoid inadvertently incentivising producers to make business-led decisions which are environmentally unfavourable
  - Ensure decisions are fair and transparent

# Tool development

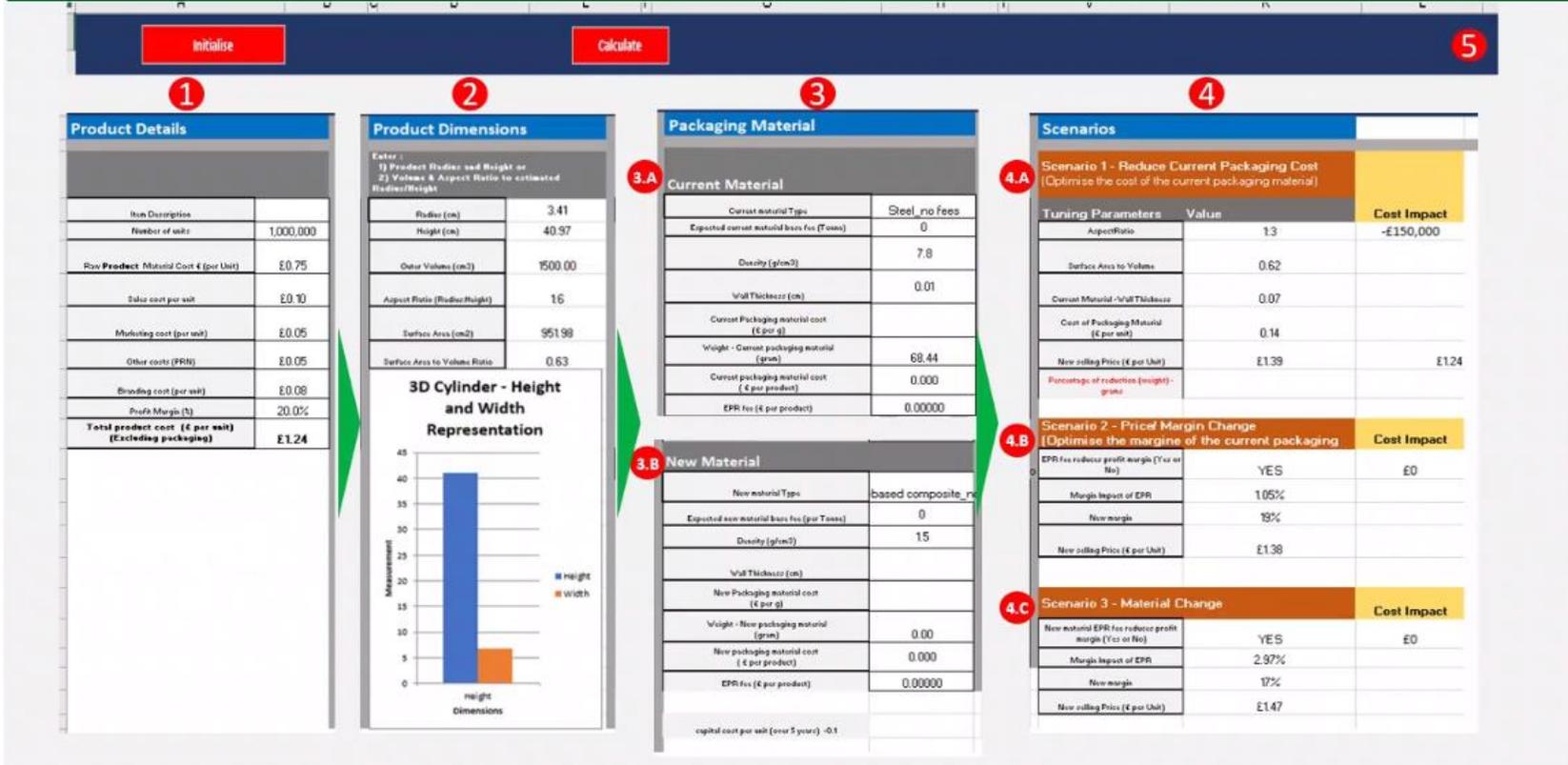


<b>Primary Users</b>	<ul style="list-style-type: none"> <li>• Scheme Administrator</li> <li>• Producers? Others?</li> </ul>	
<b>Key Challenges</b>	<b>1</b> <b>Availability of packaging data</b>	<b>2</b> <b>Information on cost of redesigning packaging processes</b>
	<p>Comprehensive database of packaging density, weight and cost is essential for accurately modelling the impact of fees</p>	<p>Diverse approaches:</p> <ul style="list-style-type: none"> <li>• Completely outsourced</li> <li>• Integrated into product manufacturing process</li> </ul> <p>Challenge assessing the process costs associated with packaging redesign</p>
<b>Required Input</b>	<ul style="list-style-type: none"> <li>• Address these challenges to enhance the tool's effectiveness in assessing the effect of different fee modulation strategies</li> </ul>	

# Conceptual Design



# Current FIAT dashboard



How **feasible** do you think it is to produce a tool that predicts effects reliably enough? ↴

Poll 2



BL

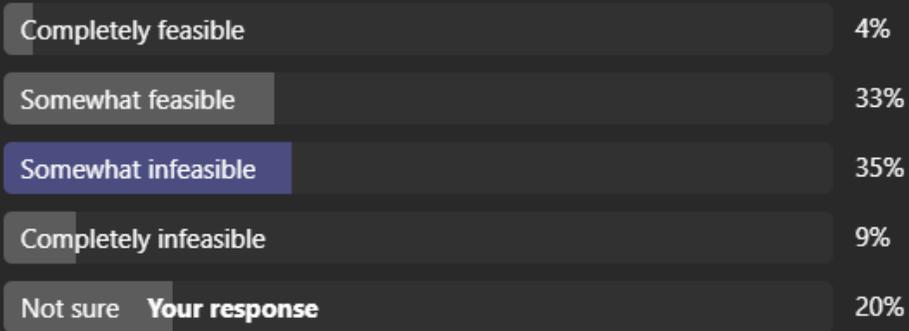


Forms



Names not recorded ; Results shared

How feasible do you think it is to produce a tool that predicts effects reliably enough?



138 responses

Done

## What we'd like to know from you ...

- Q1 Does such a tool already exist – are we reinventing the wheel?
- Q2 What do you think of our general approach – does it make sense?
- Q3 Have we missed any important business drivers?
- Q4 Do you have data on packaging types, formats, density, weight, prices that could help us?
- Q5 Can you help us understand the costs of changing production processes so we can look at variations in cost per unit?
- Q6 Are you willing to volunteer to be part of an expert advisory group that we can draw on to develop the concept and design?

# Thank you!

- If you can help further, please email **CPREnquiries@defra.gov.uk** – mark it for the attention of Barbara Leach