

March 2025

Crisps, Nuts and Popcorn

Opportunities for Reformulation



OVERVIEW

With the majority of our salt and sugar intake already present in the foods we buy, policies designed to improve the nutritional content of foods are a vital necessity.

History has shown us that reformulation programmes can successfully work to improve the nutritional value of foods and reduce the high levels of salt, sugars and fats in them. However, as evidenced in this report, the levels of salt and sugars in discretionary products such as crisps, nuts and popcorn, are wide ranging and inconsistent. It's clear that for many businesses, reformulation is still possible, but under the current voluntary system, there is little incentive to deliver.

We need a better food system, one that will both improve population health and support economic growth. We need clearer direction and action from government to ensure the reformulation programmes deliver the desired effect and create a level playing field for food businesses.



GOVERNMENT RECOMMENDATIONS

- Publish business's progress towards the 2024 salt reduction targets without further delay.
- Employ new, mandatory policies for the regulation of salt, sugars and calorie levels in food.
- Consider fiscal levers to incentivise reformulation in salt and sugars in food.



FOOD INDUSTRY RECOMMENDATIONS

- Set a healthier sales target, to have at least 75% of sales from non-HFSS products.
- Reduce the salt and sugar content of the entire food portfolio in compliance with the salt reduction guidelines.
- New product development should fall below the salt and sugar reduction guidelines and be non-HFSS compliant.

Reformulation is vital to improving the nutritional quality of our foods and through doing so we can help reduce population salt and sugar intakes and improve public health.

INTRODUCTION

Snacking is a staple part of many people's diets, with the UK snack market valued at over £3 billion in 2023 [1]. Savoury snacks in particular, has seen year-on-year growth since 2011, with potato crisps reported to have the greatest revenue growth in 2023 [2]. While collectively they are a source of enjoyment for many, they also contribute to excess calories, saturated fat, salt and sugars intake, which is impacting population health.

High intake of these nutrients is associated with an increased risk of obesity, hypertension, heart disease and type 2 diabetes. Given the role of highly processed foods, including snacks, in contributing to diet-related ill health, targeted interventions to improve the nutritional quality of products via reformulation, and healthier product choices, are crucial.

The UK government has implemented several measures to incentivise businesses to improve the nutritional quality of food and drink, including voluntary reformulation programmes for calories, salt and sugars reduction, and restrictions on advertising and promotion of food and drink high in calories, salt and sugars.

This report examines the nutritional content of crisps, nuts, and popcorn available in major UK retailers. By analysing their nutritional profiles, the report aims to assess current industry practices and progress towards reformulation programmes, along with viable technical solutions to reduce salt further.

METHOD

Pre-packaged flavoured crisps, nuts and popcorn available for purchase in major retailers across the UK were surveyed. The average nutrition content per 100g was assessed and comparisons were made against several government initiatives to improve the nutritional quality of packaged food:

- 1 Nutrient Profiling Model
- 2 Calorie Reduction Targets
- 3 Salt Reduction Targets

Further details of the methodology and inclusion criteria can be found in Annex 1. Please note, only products available for sale in large supermarket chains were included in this report and may or may not reflect a business's total portfolio.

OVERALL NUTRITION CONTENT

A total of 1,221 products were included in this survey, with over half of the products produced by manufacturers (55%). On average, manufacturer-produced snacks contain slightly fewer calories, but marginally higher levels of saturated fat, sugars and salt per 100g in crisps, nuts and popcorn, compared to retailer-own-label products (Table 1). A full breakdown of different subcategories can be found in Annex 2.

Table 1. Average (range) in energy, saturated fat, total sugars and salt content for snacks, split by category and business type

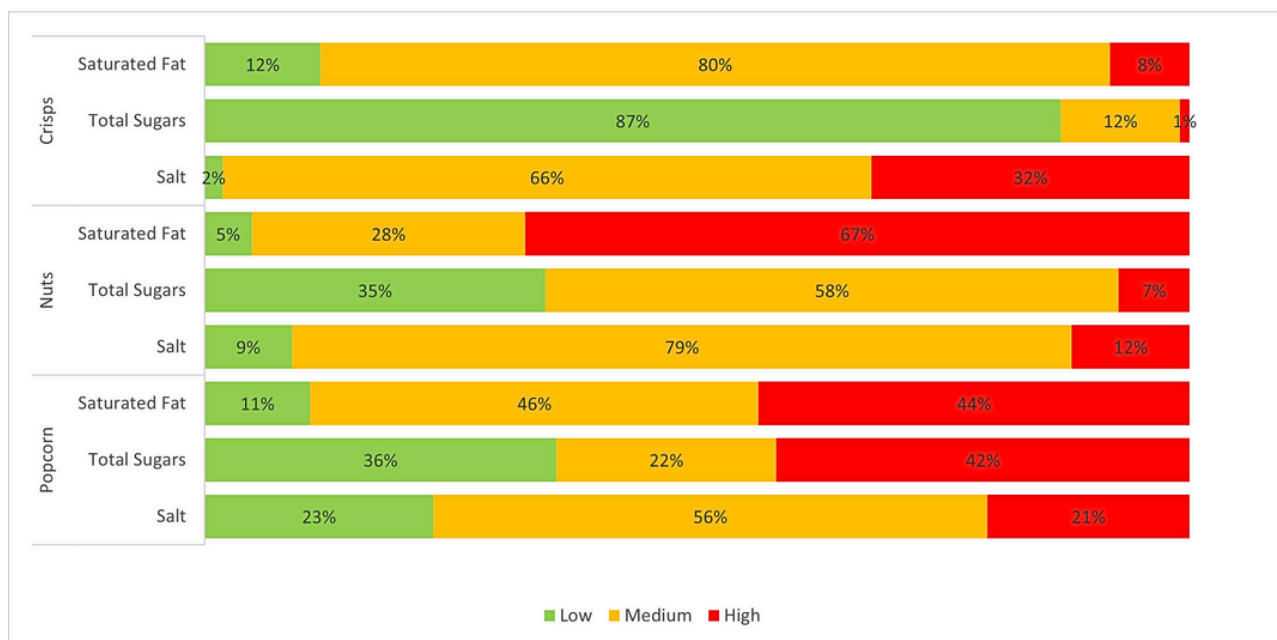
Category	No. of Products	Energy kcal/100g	Saturated Fat g/100g	Sugars g/100g	Salt g/100g
Crisps	817	495 (318 - 597)	3.0 (0.5 - 29.9)	3.2 (0.0 - 39.1)	1.38 (0.00 - 5.30)
Manufacturer	456	491 (318 - 597)	3.3 (0.9 - 29.9)	3.3 (0.0 - 39.1)	1.38 (0.00 - 5.30)
Retailer	361	501 (376 - 566)	2.7 (0.5 - 21.6)	3.0 (0.0 - 27.0)	1.37 (0.33 - 3.80)
Nuts	292	580 (368 - 760)	6.6 (0.1 - 31.0)	8.8 (0.0 - 51.0)	0.98 (0.01 - 2.80)
Manufacturer	134	554 (385 - 727)	6.8 (0.1 - 31.0)	9.7 (0.0 - 51.0)	1.11 (0.02 - 2.80)
Retailer	158	602 (368 - 760)	6.4 (0.7 - 15.8)	7.9 (1.9 - 49.4)	0.87 (0.01 - 2.50)
Popcorn	112	466 (108 - 674)	6.2 (0.5 - 23.0)	19.0 (0.0 - 69.0)	1.04 (0.00 - 4.50)
Manufacturer	79	460 (108 - 674)	7.7 (0.8 - 23.0)	19.7 (0.0 - 69.0)	1.12 (0.00 - 3.00)
Retailer	33	481 (402 - 529)	2.7 (0.5 - 13.7)	17.2 (0.4 - 59.1)	0.87 (0.01 - 4.50)

According to the governments front of pack colour-coded labelling criteria, one in four snacks would be considered high in saturated fat and salt, and 6% would be high in total sugars (Figure 1). Nuts were disproportionately higher in saturated fat, which is expected given their naturally high-fat content. The majority (80%) of crisps had medium levels of saturated fat, which is the result of ongoing industry efforts to reduce the saturated fat content in this snacks category [3]. Nearly one in two popcorn snacks (44%) were high in saturated fat.

Most snacks included in this report, which were mostly savoury in nature, were predictably not high in total sugars. A few exemptions were noted for crisps, but these tended to be vegetable crisps with a naturally higher sugar content such as beetroot and carrot. Nearly 1 in 2 popcorn products were high in total sugars.

There were limited options of surveyed snacks low in salt, and one in three crisps were high in salt (32%). Similarly, one in five popcorn products were high in salt, and only 9% of flavoured nuts and similar snacks were low in salt.

Figure 1. Proportion of savoury snacks categorised as high, medium and low in saturated fat, sugars and salt*.



*High, medium and low criteria is based on the UK Government's guidance on front-of-pack labelling [4].

Variation in Salt and Sugars Content

Across all snacks and within sub-categories, there are significant variations in the total sugars and salt content (Annex 2). This demonstrates the feasibility of reformulation, whereby businesses can produce a comparable product with significantly lower levels of salt and/or sugars in them (Figures 2-4).

Figure 2. Mean, median, upper and lower quartiles, minimum and maximum salt and total sugars content per 100g for crisps and similar snacks, split by sub-category

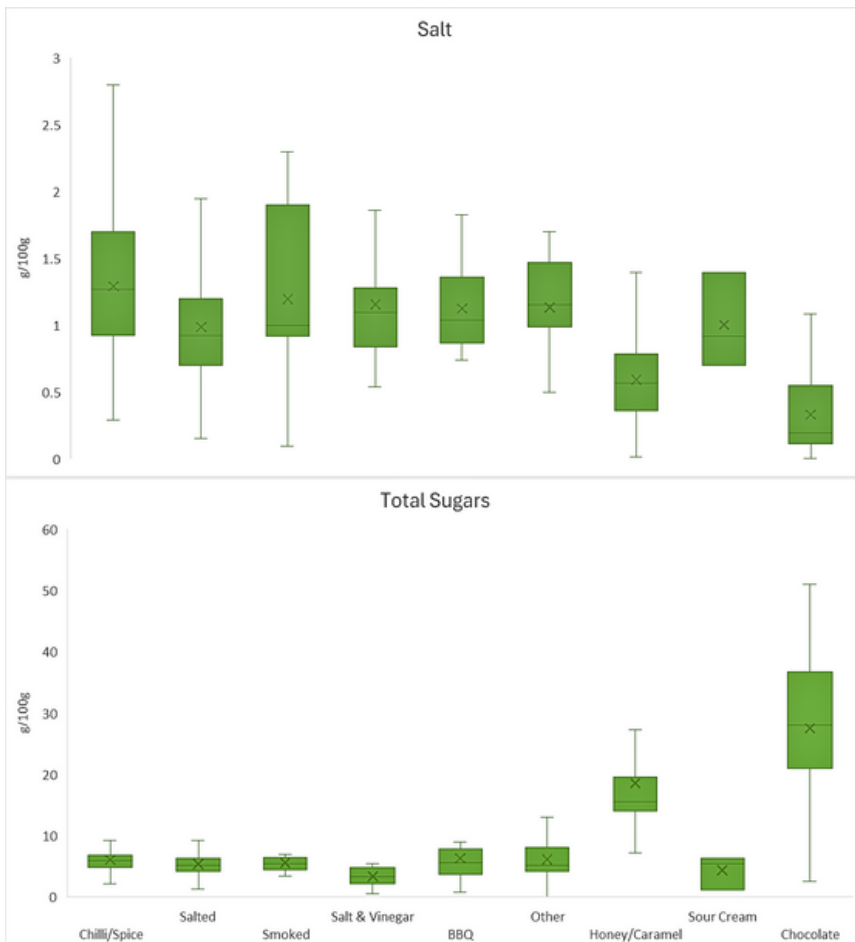
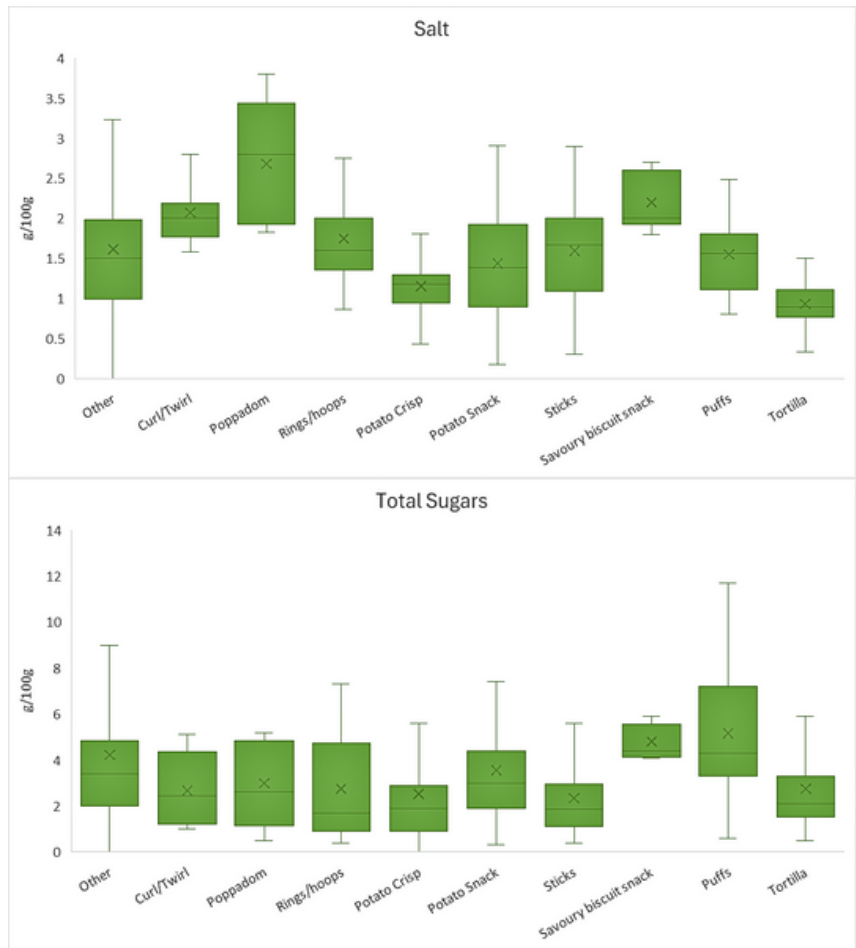
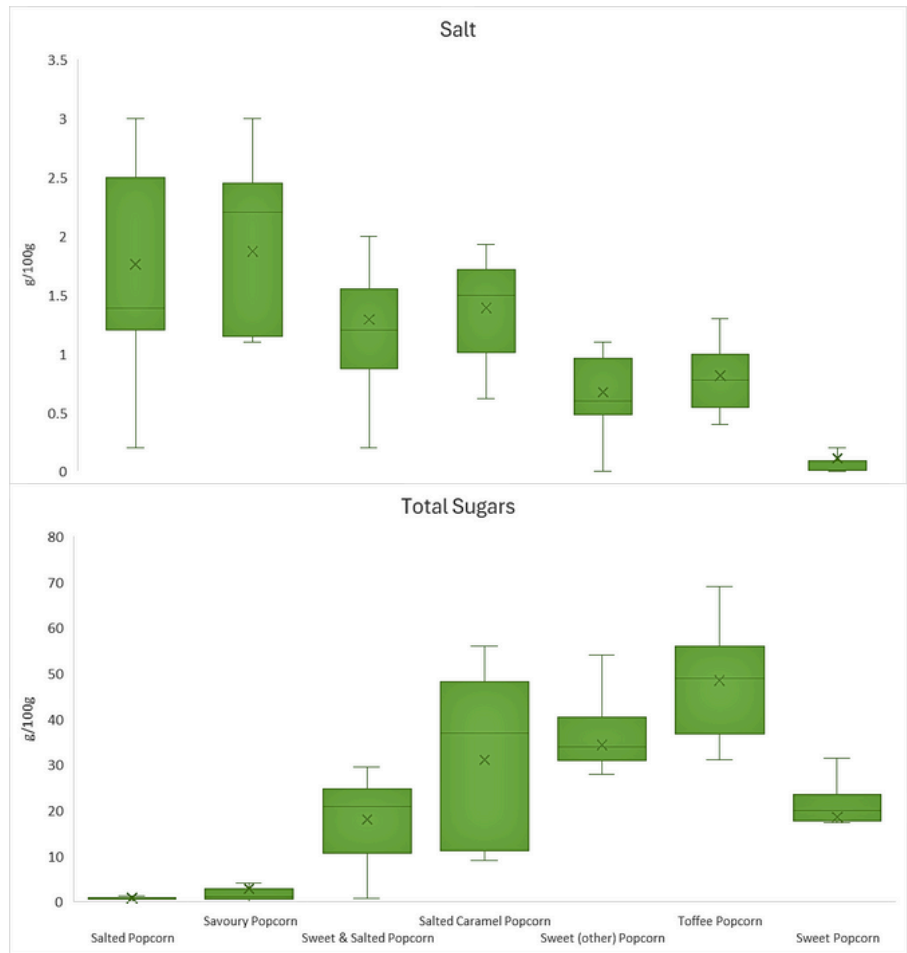


Figure 3. Mean, median, upper and lower quartiles, minimum and maximum salt and total sugars content per 100g for nuts and similar snacks, split by flavour

Figure 4. Mean, median, upper and lower quartiles, minimum and maximum salt and total sugars content per 100g for popcorn, split by flavour

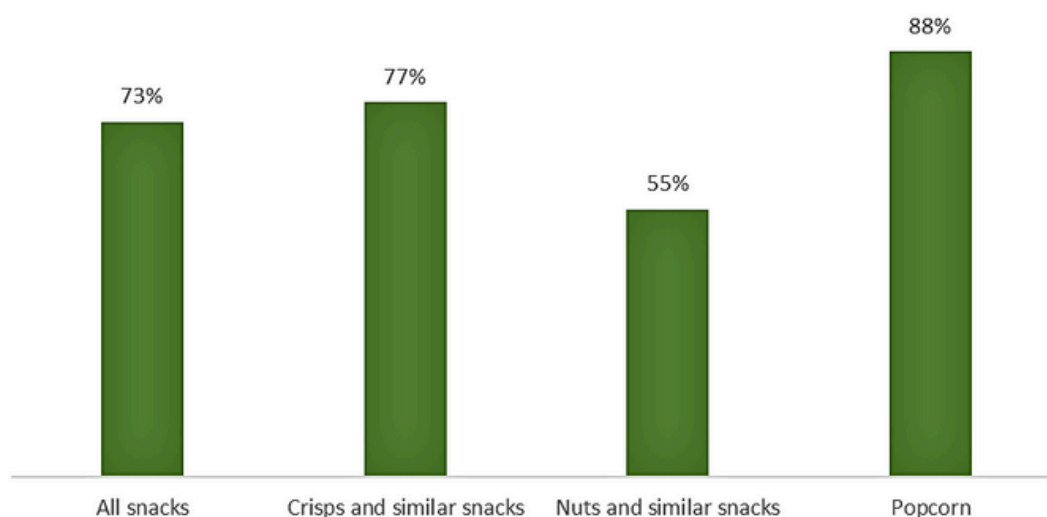


NUTRIENT PROFILE SCORE

Using the Nutrient Profile Model (NPM), 73% of all snacks included in this dataset would be classified as high in fats, salt and sugars (HFSS). Retailers on average have a slightly higher proportion of their snack's portfolio in the HFSS category (77% vs 70%). Popcorn had a higher average NPM score compared to other snacks surveyed (Figure 5).

Please note, not all snacks in this report are in scope of the HFSS advertising and promotions legislation due to come into effect in October 2025, which uses the NPM to determine whether a product can or cannot be advertised before 9pm.

Figure 5. Proportion of crisps, nuts and popcorn deemed HFSS



Only two companies had 100% of the snacks we surveyed as non-HFSS: **Simply Roasted** and **Insane Grain**. This was followed by **Unilever** with 92% of their snacks portfolio non-HFSS and **Love Corn** with 83%. All snacks within this survey produced by **Cambrook Foods Ltd, GFT Retail, Savoursmiths, Morrisons, Kohlic Brands UK Ltd, UK Trading Places Ltd, Popz Europe** and **Joe's Gourmet Foods Ltd** were HFSS (Table 2).



Table 2. Company average NPM score and proportion of their portfolio which are HFSS (sorted lowest to highest proportion that is HFSS)

Company*	Number of Products	Average NPM score	Proportion of products that are HFSS
All Products	1221	9	73%
Manufacturer	669	9	70%
Retailer	552	8	77%
Simply Roasted	6	0	0%
Insane Grain	5	1	0%
Unilever	12	-1	8%
Boundless	7	0	14%
Love Corn	6	1	17%
Hippeas	6	3	33%
Ocado	5	1	40%
Blanco Nino Ltd	5	3	40%
Valeo Foods Group	14	4	43%
Calbee Group UK Ltd	20	5	45%
WARP Snacks	32	7	56%
Wonderful	5	3	60%
Marks & Spencer	99	8	61%
PepsiCo	132	8	61%
Kellanova	17	8	65%
Brindisa Ltd	6	9	67%
Maize & Grace	6	8	67%
Forest	6	13	67%
Waitrose	28	8	71%
Aldi	79	8	72%
KP Snacks Ltd	82	9	74%
Cofresh	11	9	73%
Tesco	56	7	75%
Co-op	16	8	75%
Jacob's	13	16	77%
Sainsbury's	58	8	78%
Tropical Sun	6	11	83%
Filbert's Fine Foods Ltd	16	6	81%
Well & Truly	6	9	83% †
Lidl	96	9	85%
Mister Free'd	7	7	86%
Asda	65	9	88%
Tayto Group Ltd	20	12	90%
Cambrook Foods Ltd	8	6	100%
GFT Retail	13	10	100%
Savoursmiths Ltd	5	9	100%
Morrisons	49	10	100%
Kohlico Brands UK Ltd	9	14	100%
UK Trading Places Ltd	6	17	100%
Popz Europe	7	17	100%
Joe's Gourmet Foods Ltd	24	19	100%

*Only companies with 5 or more products included

†This information is accurate from the time of data collection (November 2024). Well & Truly has since reported significant reductions in the salt content of their snacks, resulting in an improved nutritional profile.

CALORIE REDUCTION GUIDELINES

Overall, there is strong compliance with the Government's maximum calorie reduction guidelines for snacks (96%), with slightly greater achievements in retailer own-label products (98%) compared to manufacturer-produced snacks (94%). Whilst we cannot comment on compliance with the sales-weighted average due to restrictions in data access, findings from the Government's progress report [5] indicate that crisps and savoury snacks achieved a minimal reduction of 0.6% in sales-weighted average calories per 100g between 2017 and 2021, falling short of the 5% target.

Please note, not all snacks included in this survey were assessed against this guideline; fruit and vegetable-based snacks, nuts (except chocolate coated), sweet and sweet and salted popcorn are all excluded from the calorie reduction guidelines.

SALT REDUCTION TARGETS

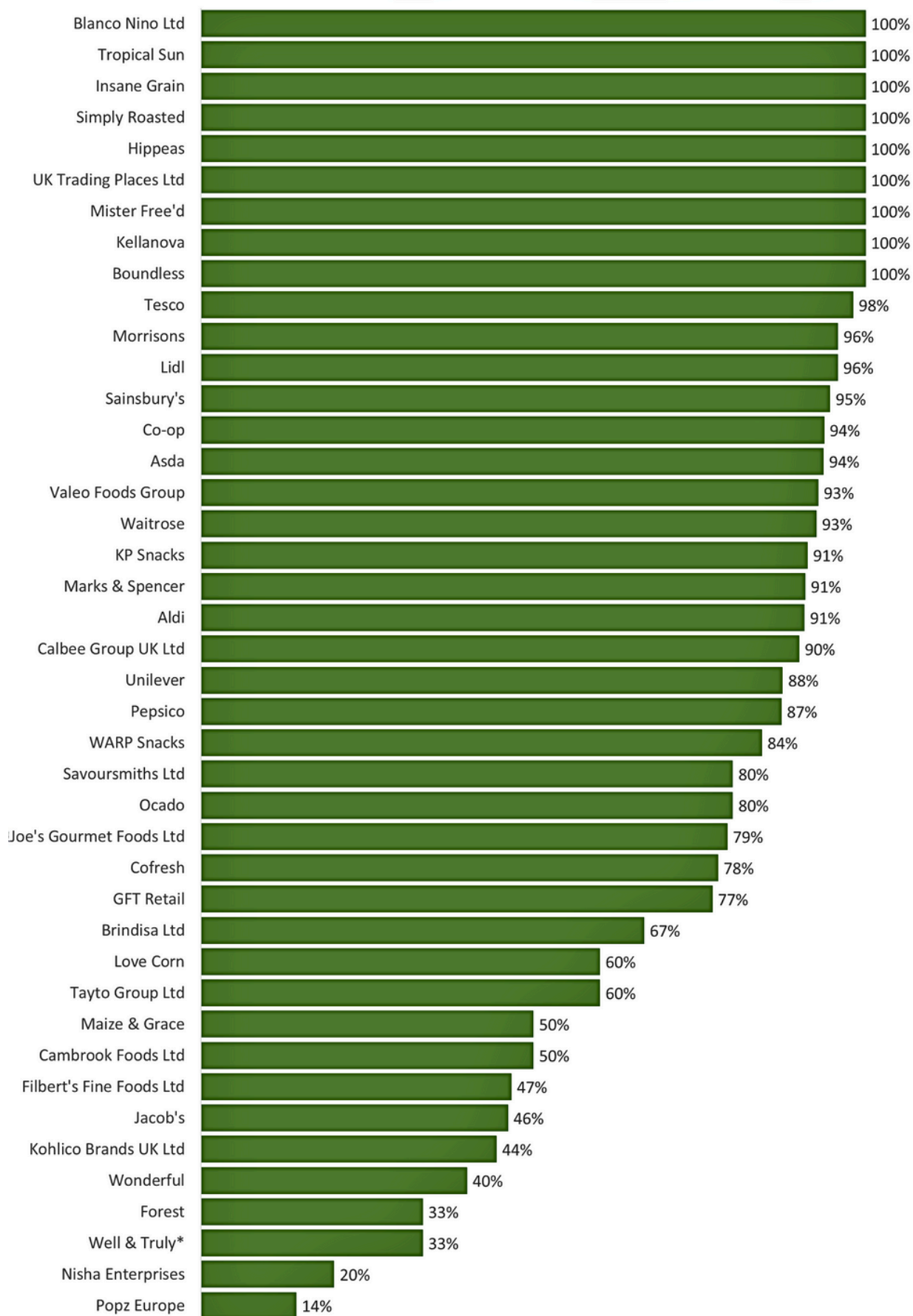
Table 3 provides an overall summary of category-specific achievements in salt reduction for the snacks included in this report. Overall, there is 85% compliance with the maximum salt reduction targets, with greater achievements in retailer own-label products (94%) compared to manufacturer-produced snacks (77%). Snacks with the lowest compliance to the maximum salt target was savoury biscuit snacks at 33%, followed by savoury popcorn at 60%.

Table 3. Overall category-specific compliance with salt reduction targets for products surveyed in this report

Salt Target Category	No. of Products	Mean Salt g/100g	Maximum Target g/100g	Compliance with Salt Target
11.1 Standard Potato Crisps	261	1.07	1.38	90%
11.2 Extruded and sheeted snacks	257	1.25	1.90	93%
11.3 Pelleted Snacks	170	1.78	2.73	91%
11.4 Salt & Vinegar Products	106	1.72	2.25	82%
11.5 Savoury Popcorn	62	1.54	1.44	60%
11.6 Sweet Popcorn	50	0.43	1.00	90%
11.7 Flavoured Nuts	233	0.96	1.20	76%
16.2 Savoury biscuits	12	1.92	1.75	33%
Products without an applicable salt target	70	1.15	n/a	n/a

Nine companies have fully complied with the respective salt targets (Figure 6), with a further four businesses achieving $\geq 95\%$ compliance. Please note, no comments can be made on sales-weighted averages due to restrictions in data access.

Figure 6 Proportion of businesses (with 5 or more products) meeting respective maximum salt targets



* This information is accurate from the time of data collection. Well & Truly have since reported significant reductions in the salt content of their snacks, resulting in an improved nutritional profile and 88% compliance with the salt targets.

IMPROVING NUTRITIONAL PROFILE - SALT REDUCTION

Snacks can take many shapes and forms, from single-ingredient products with flavouring (nuts and popcorn) to extruded and pelleted snacks. The nutritional content of different snacks varies greatly, which ultimately affects their overall nutrient profile and thus could impact a business's ability to promote and advertise their product under forthcoming legislation.

There are various challenges and opportunities to alter a product's nutritional makeup, from reducing the level of saturated fat and sugars content, to increasing fibre. A key opportunity for savoury snacks would be for businesses to adjust the level of salt added to their end product. Salt is predominantly added to snacks for flavour in the seasoning mix, but it can also play a role in snack production and pellet formation, meaning there are multiple routes and opportunities in which a business can reformulate.

Gradual Reductions in Salt

Suitable for all snacks production and seasoning mixes

One simple way to reduce salt in snacks is to reduce the amount of added salt. Gradual and unobtrusive reductions are recommended so that the change in flavour is subtle and unnoticeable to the consumer. Reductions can be made in various stages of the snack product, from the production of the pellet, sheet or extrusion process to the seasoning mix which coats the final product.

If reducing salt in the seasoning mix, other ingredients can be used to add flavour, such as pepper, garlic, spice or umami, resulting in a reduced salt profile whilst still maintaining flavour.

Reduced Sodium Salt Replacers

Suitable for all snacks production and seasoning mixes

Whilst it's recommended to reduce the overall taste of salt in products over time, some businesses prefer to match the salty profile of their existing product. Low sodium salt replacers can be used for this, allowing for reduced sodium content while maintaining similar functionality and taste. Various products and custom blends can be tailored to meet specific reduction targets.

CASE STUDY: THE KERRY GROUP

The Kerry Group developed a new line of cheese-flavoured savoury snacks targeting markets in Mexico and the USA, to adhere to the country's respective salt targets. Using their Tastesense Salt technology, combined with advanced fermentation and Smoke & Grill techniques, they successfully launched a range of cheese-flavoured snacks with reduced sodium content.



Table 4. Companies providing low sodium salt replacers:

Company Name	Description	Salt Reduction	Application
<u>The Kerry Group</u>	A sodium free ingredient made from botanical extracts, peptides and ferments.	Can reduce salt by up to 60%. It examines all three stages of taste - initial, middle, and aftertaste - to ensure a well-balanced flavour while simultaneously reducing sodium content.	Seasoning mix.
<u>LoSalt Klinge Foods Ltd.</u>	A blend of sodium chloride and potassium chloride. Is UK made, and suitable for use in organic systems.	Up to 66% sodium reduction (various blends available). Can be used as a 1:1 replacement.	Seasoning mix. Pellet production. Extrusion process.
<u>Merisal Lower Sodium Sea Salt</u>	A lower sodium sea salt which is harvested from ocean sea water and combined with potassium chloride.	Offer 4 blends of reduced sodium salt: 25%, 35%, 45%, and 57%.	Seasoning mix. Extrusion process.
<u>Saltsmith: Low Sodium Salt</u>	A blend of sodium chloride and potassium chloride.	Offer 3 blends: 20%, 30% and 40% reduced in sodium as well as offering a blending service to produce bespoke salt blends.	Seasoning mix.
<u>Saltwell</u>	A sea salt with naturally lower levels of sodium, and 15% potassium. Unlike other manufacturers, potassium and sodium are both present within the same grain.	35% reduced in sodium. Have different types of reduced sodium salt depending on the application. For example, they have a microfine salt which is good for snacks.	Seasoning mix. Extrusion process.
<u>Smart Salt</u>	A blend of sodium, potassium and magnesium chloride.	Can reduce sodium by 60%. Can be used in a 1:1 replacement. Replacement of sodium with magnesium has shown to have no bitter aftertaste.	Seasoning mix. Extrusion process.
<u>SOLO Sea Salt</u>	A reduced sodium salt with additional magnesium and potassium.	Offer 2 blends: 60% and 30% sodium reduction. Is 100% natural as there is no chemical processing.	Seasoning mix. Extrusion process.

Reduced Crystal Size

Suitable for all seasoning mixes.

A practical method for reducing sodium involves decreasing the salt crystal size. Smaller crystals dissolve faster on the tongue, providing an immediate sensation of saltiness with less sodium. This can be achieved by either reducing crystals to microscopic sizes or creating hollow microsphere salt crystals, enabling sodium reductions of 25% to 50%. These smaller crystal sizes can be used in seasonings mixes, and due to their reduced size, makes the salt more adhesive to snacks, which reduces the salt residue at the bottom of the packet.

Table 5. Companies offering reduced crystal size salt:

Pellets Name	Description	Salt Reduction	Application
Microsalt	MicroSalt crystals are 100x smaller than normal salt crystals, so they melt on the tongue immediately and release full salt flavour. After ten seconds, MicroSalt releases over 3x more salt taste than standard salt. 100% Natural. Does not contain potassium chloride.	75% salt and 25% carrier, offering a 40% reduction in sodium. Microsalt Premium mimics table salt granularity. Customers often start with a 1:1 ratio but find that too strong so use less, which increases the sodium reduction even more, by up to 50%.	Seasoning mix. Pellet Production. Extrusion Process.
Tate & Lyle (SODA-LO)	Turns regular salt crystals into hollow free-flowing salt microspheres which increase the perception of saltiness on the tongue.	Can reduce sodium by up to 50%. Functions the same as salt. Labels as 'sodium bicarbonate' so can still achieve clean label without potassium.	Seasoning mix.

Reducing Salt in the Base Recipe of Pellets

Suitable for pellet production.

The majority of snacks available in the UK market are extruded or sheeted, but there are some businesses which use snack pellets. Snack pellets can be a convenient option for businesses that do not have the infrastructure to produce extruded products. Salt is an important ingredient in the pellet formation and reducing the salt content too much could affect the appearance and texture of the product. Pellet snacks therefore have a higher salt target compared to standard potato and extruded/sheeted snacks. That being said, studies show that reduced-salt pellets can still expand effectively if conditioned to optimal moisture levels.

CASE STUDY: TAYLOR'S SNACKS



Through the Scottish Reformul8 program, Taylor's Snacks successfully reduced the salt content in their pellet base and during the popping process. By decreasing salt levels and proportionally increasing other ingredients, they reduced the salt in the base pellet from 1.5g to 0.5g/100g. Additionally, they discovered that salt could act as a heat conductor, removing the need for oil. These changes resulted in an overall salt reduction of 58%, lowering the total salt content of the final product from over 2g to under 1g/100g.

Table 6. Companies providing reduced-salt pellets:

Company Name	Description	Sodium Reduction
<u>Snack Creations</u>	Have a range of different snack pellets which have options of low sodium and HFSS compliant snack pellets.	Has varying amounts of sodium reduction depending on the pellet. Pellets can be made from different starches such as potato, legumes, rice and more.

Additional Support for Businesses

Food and Drink Federation Scotland's Government funded Reformulation for Health programme Reformul8, supports food and drink manufacturers to succeed in their efforts to reduce not just salt, but also calories, sugars and fat, as well as increase fruit, vegetables and fibre.



CASE STUDY: SHORE - THE SCOTTISH SEAWEED CO

About Shore

Shore are growers, harvesters and processors of natural Scottish seaweed, and launched their range of seaweed crisps in 2020, which fell short of the non-HFSS scoring threshold. Recognising the importance of reformulation, Shore sought a £5,000 grant from the Reformul8 Challenge Fund to help bring their crisps under the HFSS threshold.



The Flavour Challenge

“The main issue we had to address was how to keep our product ‘integrity’. We wanted to comply with HFSS requirements, but also wanted to retain the flavour and mouth-feel that comes from being a fried product.”

Their approach to achieving HFSS compliance:

- Increased the vegetable content in all flavours from 70% to 80%, calculated by HFSS rules, by replacing some refined flours with more quinoa, pea and seaweed.
- Slashed the salt content on new flavours: they have 1.1g salt per 100g, whilst the original formulations for flavours like Asian Peking had up to 2.0g/100g salt.
- Working with seasoning houses to reduce the salt in our existing flavours.

Making these changes took them below the HFSS threshold, reinforcing the crisps’ positioning as ‘better for you’.

Advice to Others

“There’s no hiding the fact that reformulation can be difficult for small companies. It takes a lot of resources to launch – or relaunch – a new product, and it can be expensive to test the recipes in manufacturing facilities. Having the financial support and access to advice from the Reformul8 Challenge Fund certainly helped, and we would also offer two other tips:

1. Write a clear rationale for what you want to achieve. Reformulation can create real competitive advantage, so it’s not just about doing minimal changes for compliance or following the market. Have your eyes open to the potential difficulties involved but also set your sights high.
2. Get a wide range of people to try the product. Often you’re too close to the products, and it’s important to get a neutral view. Feedback and data from your taste testing can provide you with confidence to take the product to buyers.”

ENGAGEMENT WITH INDUSTRY

We contacted companies where we held data for 5 or more snacks and invited them to comment on the nutrition content of their products and their priorities for salt reduction.

PEPSICO

In October 2024, PepsiCo UK transformed its entire Doritos portfolio, resulting in the whole range now being classified as non-HFSS.



PEPSICO

The enhanced recipe reduces the amount of salt and fat by an average of 18% and 14% respectively when compared with the previous recipe, enabling the product to now be classified as non-HFSS. Changes have also been made by adding more corn to the recipe, fine-tuning the cooking process and through changes to seasonings. The innovation was made possible by the company's recent £13 million investment in its Coventry site. The investment has also facilitated the replacement of a manufacturing line to enable changes to each stage of the production process, from corn washing and milling, to cutting and cooking.

This innovation forms part of PepsiCo UK's wider programme of recipe change and new product development. Including non-HFSS Walkers Thai Sweet Chilli Sensations and the launch of 'Yummy With', a range of non-HFSS Wotsits and Monster Munch flavours made with chickpea. These all form part of PepsiCo UK's industry-leading ambition announced in 2022, for half of their UK snacks sales to come from healthier alternatives by 2025, with 30% from non-HFSS snacks and 20% from snacks sold in portions of 100 Calories or less per packet. This ambition was boosted by an initial £35 million investment over three years to drive product innovation and recipe change.

WELL & TRULY

From the beginning, we've been dedicated to creating snacks that are both delicious and better for you. All our Crunchies contain 40% less fat than the average crisp, giving snack lovers a lighter, guilt-free crunch.

But we didn't stop there. We've been actively working to reduce salt content across our range. Our Salt & Vinegar Crunchies have been reformulated, cutting salt from 1.9g/100g to just 0.7g/100g. Our exciting new Crunchies flavour, launching this April, will also be low in salt at just 0.67g/100g.



Beyond that, we've reformulated three more flavors, set to launch later this year, as part of our ongoing mission to make snacking better. Our ultimate goal? To have our entire range be non-HFSS by the end of 2025/early 2026.

PRINGLES

Over several years, the Pringles core range has made significant nutrition improvements with a 25% reduction in salt* and a 70% reduction in saturated fat** across the range.

In 2024, Pringles launched HOT!, a hot twist on a classic snack, with the same iconic crunch and famous 'hyperbolic paraboloid' shape consumers know and love, with less salt. Five of the six HOT! lines are non-HFSS and the range contains on average 27% more fibre, 20% more protein and 52% less saturated fat and 47% less salt than the previous Pringles spicy range, Pringles Sizzl'n.

*Average salt reduction across Pringles Original, Sour Cream and Onion, SPR, HPR, BBQ, H&S since 2018

**70% reduction in saturated fat since the 1990's



BRINDISA

At Brindisa we value taste, provenance and the championing of small producers. While many of the products that we sell have health benefits, we do not claim to be a health brand, nor do we make claims about offering healthy or wellness products. We offer a wide variety of foods, ranging in salt content, and encourage our customers to assess and form their own opinions when tasting and enjoying the foods that we sell.



SIMPLY ROASTED

Simply Roasted has transformed the snack food industry by introducing a revolutionary, healthier alternative to traditional crisps. High-fat, high-salt products pose health risks in a country grappling with rising obesity rates. Our company vision is to contribute to decreasing this growing trend, whilst offering a crisp with unparalleled taste and texture. The entire Simply Roasted range of 15 products is HFSS compliant.

**simply
roasted.**

TAYLORS SNACKS

We're always looking at ways to improve the nutritional value of our snacks, and are pleased with the progress made on salt reduction across our lentil waves – which are now available in schools across Scotland as a result. We have ambitions to continue this work across our other products and ranges, as a major part of our business strategy in the coming years.



ANNEX 1

Methodology

Full nutrition and ingredients information was collected online from eleven major retailers (Aldi, Asda, Iceland, Lidl, Marks & Spencer, Morrisons, Ocado, Sainsbury's, Tesco, The Co-operative and Waitrose) in November 2024, following strict inclusion and exclusion criteria (Table 1a-c). Products from 110 different companies were included in the dataset, and companies with 5 or more products were contacted for data verification, and were invited to meet and discuss their salt reduction priorities.

Table 1a - Inclusion and Exclusion Criteria of Crisps (and similar)

Inclusion:

- Potato crisps
- Potato snacks
- Pulse-based snacks
- Popped snacks
- Poppadom snacks
- Tortilla snacks
- Fruit and Veg based snacks (including seaweed)
- Snack sized savoury biscuits i.e. mini cheddars
- Rice cakes in individual snack bags

Exclusion:

- Prawn crackers
- Pretzels
- Bombay mix
- Seasonal varieties
- Crackers, crispbreads and flatbreads (not located in snacking aisle)
- Large rice cakes

Table 1b - Inclusion and Exclusion Criteria of Flavoured Nuts (and similar)

Inclusion:

- All savoury flavoured nuts
- All sweet flavoured nuts
- Coated nuts
- Dried legumes, beans and corn

Exclusion:

- Plain dried fruit with plain nut mix
- Bombay mix
- Cheese snacks
- Seasonal varieties
- Plain unsalted nuts

Table 1c - Inclusion and Exclusion Criteria of Flavoured Popcorn

<p>Inclusion:</p> <ul style="list-style-type: none"> • All sweet, popped popcorn • All savoury, popped popcorn • All sweet and savoury popped popcorn • Microwave popcorn 	<p>Exclusion:</p> <ul style="list-style-type: none"> • Popcorn kernels • Seasonal varieties
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Data Analysis

The average nutritional content per 100g was assessed and comparisons were made against several government initiatives to measure the healthiness of a product and encourage industry wide reformulation.

1. Front of Pack Nutrition Labelling

The UK adopted a voluntary Front of Pack colour coded nutrition labelling policy, aimed at helping consumers make healthier food and drink choices quickly and easily. The labelling system combines traffic light color-coding with numerical information about energy, fat, saturated fat, sugars, and salt content per portion or 100g/ml, to signify if a product is high, medium or low in a particular nutrient.

Saturated fat, sugars and salt content were compared to the colour-coded labelling criteria (Table 2).

Table 2. Colour coding criteria for 100g of food

Text	Low	Medium	High
Colour Code	Green	Amber	Red
Fat	≤3.0g/100g	>3.0g to ≤17.5g/100g	>17.5g/100g
Saturates	≤1.5g/100g	>1.5g to ≤5.0g/100g	>5.0g/100g
(Total) Sugars	≤5.0g/100g	>5.0g to ≤22.5g/100g	>22.5g/100g
Salt	≤0.3g/100g	>0.3g to ≤1.5g/100g	>1.5g/100g

2. Nutrient Profiling Model

The UK Nutrient Profiling Model (NPM) was developed by the Food Standards Agency in 2004 to assess the nutritional quality of food and drink, primarily for regulating advertising to children [6]. The model assigns a score based on the balance of positive nutrients (fruit, vegetables, nuts, fibre, and protein) and negative nutrients (energy, saturated fat, sugars and salt). Any food product with a score of 4 or more is deemed a less healthy, high fat, salt and/or sugar (HFSS) product.

Individual NPM scores were calculated for each product. The average NPM score and proportion of products classified as HFSS were then assessed at the category (crisps, nuts, popcorn) and company level (retailer, manufacturer, and individual company).

Various policies have been put forward to restrict the accessibility of less healthy food, particularly to children. This includes:

- No advertising to children during children’s TV programming.
- Restrictions of select food categories from certain locations in-store and online, including aisle ends, check-outs and store entrances [7].
- Restrictions of select food categories on advertising on public transport in cities around the country (e.g. TfL [8]), as well as some council-owned spaces.
- Restrictions of select food categories on advertising on TV before the 9pm watershed, and paid for online advertising, from October 2025 [9].
- Restrictions of select food categories on volume-based promotions such as ‘buy one get one free’, both in-store and online, from October 2025.

3. Calorie Reduction Targets

The UK calorie reduction targets, introduced by Public Health England (PHE) in 2020, aim to reduce excess calorie consumption and tackle obesity [10]. The voluntary targets focus on reducing calories by up to 20% across key food categories frequently consumed by the public, including snacks. The initiative encourages food manufacturers, retailers, and the out-of-home sector to reformulate products, reduce portion sizes, and promote lower-calorie options. The deadline for achieving these voluntary targets has been extended to the end of 2025.

Table 3. Calorie target for crisps and savoury snacks

Category	Calorie Reduction Ambition	Sales weighted average guideline kcal per portion	Maximum guideline kcal per portion
Crisps and savoury snacks (including potato, extruded, sheeted and pelleted snacks, salted popcorn and bagged savoury crackers and biscuits)	5%	115	205

4. Salt Reduction Targets

The UK Government has a longstanding voluntary salt reduction programme in place, with salt targets for over 100 different categories of food, including snacks, set for food businesses to work towards. The first set of targets was set in 2006, with a further 3 iterations published since, each designed to be progressively lower than its predecessor, to bring consumers' taste preference for salt down gradually. The latest set of targets was published in 2020 and was set to be achieved by the end of December 2024 [11].

Table 4. Salt targets for snacks categories

Salt Target	2024 Salt Target (g/100g)	2017 Salt Target (g/100g)	2012 Salt Target (g/100g)	2010 Salt Target (g/100g)
11.1 Standard potato crisps	1.25g SWA 1.38g MAX	1.31g SWA 1.45g MAX	1.38g SWA 1.63g MAX	1.5g SWA
11.2 Extruded and sheeted snacks	1.61g SWA 1.90g MAX	1.7g SWA 2.00g MAX	1.88g SWA 2.5g MAX	2.8g SWA
11.3 Pelleted snacks	2.03g SWA 2.73g MAX	2.13g SWA 2.88g MAX	2.25g SWA	3.4g SWA
11.4 Salt and vinegar products	1.78g SWA 2.25g MAX	1.88g SWA 2.5g MAX	2.13g SWA 3.0g MAX	3.1g SWA
11.5 Savoury Popcorn	1.23g SWA 1.44g MAX	-	-	-
11.6 Sweet popcorn	0.76g SWA 1.00g MAX	-	-	-
11.7 Flavoured nuts	1.00g SWA 1.20g MAX	-	-	-
16.2 Savoury biscuits	1.3g SWA 1.75g MAX	-	-	-

ANNEX 2

1. Mean (range) nutrition information for crisps, split by subcategory and sorted highest to lowest for salt.

Crisps Category	No. of Products	Energy (kcal)/100g	Saturated Fat g/100g	Total Sugars g/100g	Salt g/100g
All	817	495 (318 - 597)	3.0 (0.5 - 29.9)	3.2 (0.0 - 39.1)	1.38 (0.00 - 5.30)
Manufacturer	456	491 (318 - 597)	3.3 (0.9 - 29.9)	3.3 (0.0 - 39.1)	1.38 (0.00 - 5.30)
Retailer	361	501 (376 - 566)	2.7 (0.5 - 21.6)	3.0 (0.0 - 27.0)	1.37 (0.33 - 3.80)
Poppadom snack	9	503 (485 - 555)	5.0 (1.9 - 11.0)	3.0 (0.5 - 5.2)	2.68 (1.83 - 3.80)
Savoury biscuit snack	8	514 (491 - 529)	10.6 (5.3 - 15.1)	4.8 (1.6 - 9.2)	2.20 (1.80 - 2.70)
Curl/Twirl	20	511 (440 - 555)	2.6 (1.4 - 9.1)	2.7 (1.0 - 5.1)	2.07 (0.56 - 3.90)
Rings/hoops	33	496 (442 - 545)	2.3 (1.0 - 7.2)	2.8 (0.4 - 10.8)	1.75 (0.86 - 3.50)
Other	174	479 (318 - 566)	3.2 (0.9 - 29.9)	4.2 (0.0 - 22.1)	1.61 (0.00 - 5.30)
Sticks	54	490 (421 - 549)	3.5 (1.3 - 13.0)	2.3 (0.4 - 10.4)	1.59 (0.30 - 2.90)
Puffs	42	491 (399 - 555)	2.9 (1.1 - 13.1)	5.2 (0.6 - 13.4)	1.55 (0.80 - 2.48)
Potato snack	89	480 (376 - 566)	2.9 (0.5 - 20.6)	3.6 (0.3 - 25.1)	1.44 (0.18 - 2.91)
Potato crisp	289	512 (423 - 597)	2.8 (1.1 - 12.0)	2.5 (0.0 - 39.1)	1.15 (0.00 - 3.00)
Tortilla	99	489 (421 - 541)	2.8 (1.0 - 21.6)	2.7 (0.5 - 26.9)	0.93 (0.10 - 2.00)

2. Mean (range) nutrition information for nuts, split by subcategory and sorted highest to lowest for salt.

Nut Category	No. of Products	Energy (kcal)/100g	Saturated Fat g/100g	Total Sugars g/100g	Salt g/100g
All	292	580 (368 - 760)	6.6 (0.1 - 31.0)	8.7 (0.0 - 51.0)	0.99 (0.01 - 3.24)
Manufacturer	134	554 (385 - 727)	6.8 (0.1 - 31.0)	9.7 (0.0 - 51.0)	1.13 (0.02 - 3.24)
Retailer	158	602 (368 - 760)	6.4 (0.7 - 15.8)	7.9 (1.9 - 49.4)	0.87 (0.01 - 2.50)
Chilli/Spice	45	543 (368 - 727)	5.4 (0.7 - 31.0)	6.1 (0.0 - 13.6)	1.35 (0.30 - 3.24)
Smoked	11	609 (570 - 645)	5.1 (3.3 - 8.0)	5.6 (3.4 - 7.0)	1.20 (0.10 - 2.30)
Salt & Vinegar	12	544 (417 - 640)	5.0 (1.1 - 9.6)	3.4 (0.5 - 5.5)	1.16 (0.54 - 2.29)
Other	30	584 (438 - 727)	7.1 (1.4 - 31.0)	6.2 (0.0 - 14.7)	1.14 (0.20 - 1.70)
BBQ	14	521 (413 - 619)	4.2 (1.1 - 7.9)	6.4 (0.8 - 18.0)	1.13 (0.74 - 1.83)
Sour Cream	3	557 (460 - 612)	4.9 (1.4 - 7.9)	4.4 (1.2 - 6.4)	1.01 (0.70 - 1.40)
Salted	120	606 (385 - 760)	6.6 (0.1 - 31.0)	5.4 (0.0 - 26.0)	0.99 (0.16 - 2.58)
Honey/Caramel	36	574 (443 - 649)	6.0 (1.6 - 8.8)	18.4 (7.1 - 42.9)	0.60 (0.02 - 1.43)
Chocolate	21	555 (397 - 632)	12.7 (2.7 - 24.0)	27.5 (2.5 - 51.0)	0.34 (0.01 - 1.09)

3. Mean (range) nutrition information for popcorn, split by subcategory and sorted highest to lowest for salt

Popcorn Category	No. of Products	Energy (kcal)/100g	Saturated Fat g/100g	Total Sugars g/100g	Salt g/100g
All	112	466 (108 - 674)	6.2 (0.5 - 23.0)	19.0 (0.0 - 69.0)	1.04 (0.00 - 4.50)
Manufacturer	79	460 (108 - 674)	7.7 (0.8 - 23.0)	19.7 (0.0 - 69.0)	1.11 (0.00 - 3.00)
Retailer	33	481 (402 - 529)	2.7 (0.5 - 13.7)	17.2 (0.4 - 59.1)	0.87 (0.00 - 4.50)
Savoury	13	523 (410 - 674)	6.7 (1.8 - 14.0)	2.9 (0.0 - 21.3)	1.87 (1.10 - 3.00)
Salted	21	455 (108 - 524)	6.3 (1.5 - 23.0)	0.8 (0.0 - 3.9)	1.76 (0.20 - 4.50)
Salted Caramel	5	404 (294 - 481)	5.4 (0.9 - 14.4)	31.1 (9.1 - 56.0)	1.39 (0.60 - 1.90)
Sweet & Salted	20	471 (393 - 529)	3.3 (1.5 - 11.0)	18.0 (0.7 - 29.6)	1.26 (0.20 - 2.60)
Toffee	8	413 (297 - 490)	4.3 (0.5 - 14.2)	46.0 (31.1 - 59.1)	0.79 (0.40 - 1.30)
Sweet (other)	19	463 (340 - 552)	13.7 (2.5 - 21.0)	34.4 (8.2 - 54.0)	0.68 (0.00 - 1.70)
Sweet	26	472 (421 - 514)	3.4 (1.3 - 10.0)	20.5 (0.6 - 69.0)	0.15 (0.00 - 1.10)

ABOUT ACTION ON SALT & SUGAR

Action on Salt and Sugar is a non-profit organisation working to improve population health and food environments through impactful food and drink nutritional research. We inform policy, influence the food industry, raise awareness, and build advocacy for salt and sugar reformulation.

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