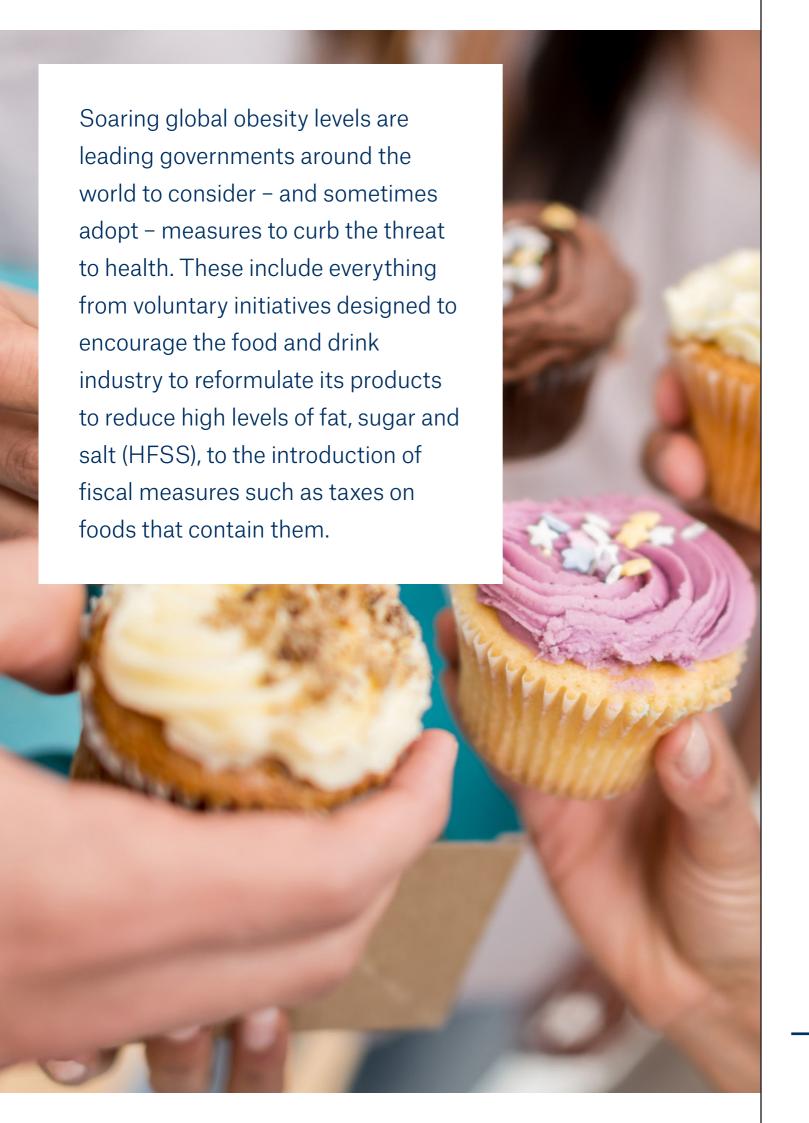
## In focus

# Sweet solutions to a weighty problem



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One of the latest examples of the impact fiscal measures are having is described in a paper<sup>1</sup> published in *The Journal of the American Medical Association* in May 2019, which reported that a tax on sugary drinks introduced in 2017 in Philadelphia, USA had halved purchases in the city in the first year.

This emphasises that the efforts to reduce obesity have, to date, focussed on reducing sugar in both food and beverages. It has primarily been driven by concerns about growing childhood obesity – particularly during the second decade of life – which is now acknowledged to be a strong predictor of adult obesity, especially for extremely overweight children of obese parents.

As a result, food companies have sought alternatives to sugar in their products to replace the calorie contribution of sweetened food and drink, while also providing many of the functional properties of sugars. However, it is often a complex and time-consuming process.

Leatherhead can help you through this complex maze, enabling identification of the right sugar replacement ingredients to meet particular needs. Remember, consumers may only buy the new reformulated products if they have the same taste and mouthfeel that sugar delivers.



Our professionally trained sensory panel can carry out product sampling/testing while our regulatory team can offer advice on the use of new flavourings, additives and ingredients – which may even be a novel ingredient requiring regulatory approval. Leatherhead's team offers a new service for compiling dossiers for novel ingredient applications.

## Scale of the problem

Without doubt, weight problems and obesity are increasing at a rapid rate in most EU Member States, with estimates of 51.6% of the EU's population (18 and over) overweight in 2014 (see Table 1).

Obesity is recognised as a chronic disease, with the greatest prevalence in developed countries, afflicting men and women of all races and ages. The growing incidence of childhood obesity is raising particular alarms in Europe. In England, one-in-three children are overweight or obese by the time they leave primary school and this rises to two-in-three in adulthood. Not only does this impact on the individual and their health and wellbeing, it also puts huge costs on our society.

High intakes of added sugars, fats, transunsaturated fatty acids (trans fats) and salt can be a risk factor for ill health. High sugar consumption is linked to obesity, type II diabetes, and possibly cancer, while high salt consumption is linked to hypertension and heart disease. The Global Burden of Disease 2017 study (Sugars and sweeteners: see GBD study 2017, item 7²) estimated that diets high in sugar sweetened beverages (SSBs) – defined as consumption of any beverage with more than 50 calories from sugar per serving of cup – and including carbonated beverages, sodas, energy drinks, fruit drinks but excluding 100% fruit and vegetable juices, resulted in almost 21,000 avoidable deaths in 2017 in the EU.

In response to this, major nutrition and health-related organisations have issued nutritional recommendations on limiting sugars and sugar containing foods and drinks. Most refer to added or free sugars intake and target specifically sugar-rich products such as SSBs. Some recommendations set an upper limit of daily energy (calorie) intake of (added/free) sugars, which is in most cases 10% and sometimes 5% of the total daily energy intake. Similarly, food-based dietary guidelines recommend limiting sugars and sweetened products.

The World Health Organization (WHO) target set in 2015 is to reduce intake of free sugars throughout life. For adults and children, it issued a strong recommendation to reduce intake of free sugars to less than 10% of total energy intake. It also issued a conditional recommendation for further reduction to less than 5% of total energy intake.



## 2.0 European Union policy

The main responsibility for health of EU citizens lies with Member States, whose duties are the definition of health policy, and the organisation, management and delivery of health services and medical care, as well as resource allocation.

However, the EU promotes healthy lifestyles. Indeed, it recognises that healthy eating and physical activity are essential to reducing chronic diseases. The EU provides information on nutrition, food labelling, the promotion of a healthy diet and preventing child obesity.

EU measures help to direct national policies towards healthier food and encourage the implementation of shared best practices across Europe. In particular, EU policies focus on: reducing childhood obesity; promoting restrictions on adverting unhealthy products; encouraging measures to ensure a healthy start in life; providing comprehensive labelling on food packaging; and imposing strict standards on foods available in schools.

The Strategy for Europe on Nutrition, Overweight and Obesity<sup>3</sup> related health issues, adopted in May 2007, identified possible areas for action and collaboration. Some Member States are encouraging reformulation of foods, for example in terms of their levels of fat, saturated and trans fats, salt and sugars.

The Strategy sets out the European Commission's (EC's) intention to facilitate the roll out of campaigns aimed at improving the nutrient content of manufactured foods in the EU. Salt is dealt with in a framework adopted in 2008. At the EC's High Level Group (HLG) meeting of 2 April 2009, several Member States expressed their interest in working together to reduce consumption of fats and sugars.

The HLG members asked the EC to help them in building a similar framework to that for salt reduction in the EU. Based on the results of two expert meetings in 2009 and 2010, a proposal for an EU Framework for National Initiatives on Fats and Energy<sup>4</sup> was developed describing a common vision for Europe.

The goal of this EU framework is to help achieve population intake levels and dietary patterns in line with those proposed by national, European Food Safety Authority (EFSA) and WHO recommendations. By selected nutrients, the framework refers to a complex set of target variables that may vary nationally, such as saturated fat, trans fat, energy, total fat content, added sugars, portion sizes and consumption frequency. EU Member State initiatives may cover one or a combination of these elements.

Participation of Member States in the framework is entirely voluntary and is designed to support and reinforce national plans. It will enable the comparison of progress across the EU while maintaining flexibility for States to shape their national approaches in accordance with domestic dietary advice and guidance.

The ambition of the framework is to allow Member States, the EC and stakeholders to give coordinated messages for reformulation and changing food portion sizes to the industry across the EU, while helping to generate momentum and measurable action. Moreover, it will allow all players identified in the EU nutrition and obesity strategy<sup>5</sup> to measure their progress against the objectives set.

<sup>2</sup>https://jamanetwork.com/journals/jama/fullarticle/2733208?guestAccessKey=86610f39-a0eb-46d4-a30a-3ddef0036408&utm\_source=For\_The\_Media&utm\_medium=referral&utm\_campaign=ftm\_links&utm\_content=tfl&utm\_term=051419

<sup>&</sup>lt;sup>3</sup> https://ec.europa.eu/health/nutrition\_physical\_activity/policy/strategy\_en

<sup>&</sup>lt;sup>4</sup> https://ec.europa.eu/health/sites/health/files/nutrition\_physical\_activity/docs/euframework\_national\_nutrients\_en.pdf

<sup>5</sup> https://ec.europa.eu/health/nutrition\_physical\_activity/policy/strategy\_en

### 2.1 Scale of the problem

The sugar reduction programme challenges the food industry – retailers, manufacturers, restaurants, cafés, takeaways, pubs, entertainment chains and delivery services – to reduce sugar in their most popular products commonly consumed by children.

The European Commission<sup>6</sup> wants the industry to reduce added sugar in food and drinks by 10% by 2020 compared with 2015 baseline levels<sup>7</sup>, from which future monitoring of the progress of food product reformulation could be evaluated. The alternative is to move towards 'best in class levels', i.e. lowest levels identified in products of the same category in the EU.

This complements the general EU Framework for National Initiatives on Selected Nutrients<sup>8</sup> and serves as a tool to support and reinforce national policies and guide voluntary actions, such as food reformulation within the EU platform for action on diet, physical activity and health<sup>9</sup>.

Monitoring of activities on food reformulation, portion sizes and more generally of the food on offer to EU consumers is key towards reducing dietrelated health burden. As Vytenis Andriukaitis, European Commissioner for Health and Food Safety, said: "what gets measured gets done<sup>10</sup>".

The report published by the Joint Research Centre in 2018<sup>11</sup> provides estimates for total sugars content for 22 European (20 EU) markets, as indicated on labels for soft drinks, breakfast cereals and dairy products categories.

Through the calculation of sugars volumes sold within different product groups, it identifies particular subgroupings that provide high shares of sugars supplied through food and drink and that could play a critical role in sugars intakes reduction efforts within the EU.

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## 2.2 Labelling and claims

In the EU, Regulation (EU) 1169/2011<sup>12</sup> on food information to consumers, requires mandatory nutrition declaration for nutrients such as sugars, under carbohydrates, fats, salt – stating the amount of in grams per 100g of product – in prepacked foods.

For labelling purposes, the reference intake for sugars of an average adult (8,400kJ/2,000kcal) is 90g/day and for fat it is 70g/day. In addition, the same regulation states that, in conversion factors for the calculation of energy, carbohydrates (including sugars) have an energy value of 4kcal/g, while for fat this value is 9kcal/g.

If products meet certain conditions set by Regulation (EU) 1924/2006 for nutrition and health claims made on foods, the following sugars or fats-related nutrition claims are permitted:

- Sugar-free, with no added sugars, low sugar, reduced sugar
- Low-fat, fat-free, low-saturated fat, saturated fat-free, reduced fat



While rising rates of diabetes have prompted scientific associations, institutions and authorities to argue for tougher measures, governments have issued policy recommendations that aim to reduce intake of sugars, fats and trans fats, with a special focus on those for children.

These policy recommendations tend to tackle either: a combination of measures involving the provision of information to the consumers (e.g. labelling of sugar/fat content in foods), restrictions on marketing practices for foods high in sugars content, and encouraging healthy behaviours, such as drinking water; or attempt to make the healthy option available by improving the 'food environment'. Examples of the latter include offering freely available water and limiting the availability of foods and beverages high in sugars in schools or public environments.

However, the food industry is also expected to play a significant role in promoting healthy diets by:

- Reducing the fat, sugar and salt content of processed foods;
- Ensuring that healthy and nutritious choices are available and affordable to all consumers; and
- Restricting the marketing of foods high in sugars, salt and fats – especially those foods aimed at children and teenagers

 $<sup>^6</sup> https://ec.europa.eu/jrc/en/science-update/towards-reduction-added-sugars-food-0 \\$ 

<sup>7</sup>https://ec.europa.eu/jrc/en/publication/sugars-content-selected-foods-eu-2015-baseline-monitor-sugars-reduction-progress

Bhttps://ec.europa.eu/health/sites/health/files/nutrition\_physical\_activity/docs/euframework\_national\_nutrients\_en.pdf

<sup>9</sup>https://ec.europa.eu/health/nutrition\_physical\_activity/platform\_en

https://ec.europa.eu/newsroom/sante/newsletter-specific-archive-issue.cfm?newsletter\_service\_id=327&newsletter\_issue\_id=5329&page=1&fullDate=Fri%2029%20 Sep%202017&lang=default

<sup>11</sup> https://ec.europa.eu/jrc/en/science-update/towards-reduction-added-sugars-food-0

## 3.1 Voluntary labelling

Some countries in the EU developed their own voluntary labelling schemes, which manufacturers may choose to use on their packaging.



The UK Traffic Light front-of-pack scheme, proposed by the UK Food Standards Agency (FSA), aims to help consumers identify healthier food choices. The scheme uses colour coding related to low, medium or high content of selected nutrients in food and drink. For total sugar in food, the thresholds are (per 100g): green/low: ≤5g, medium/amber: 5 to ≤22.5g, high/red: >22.5g. For total sugar in drink, the thresholds are (per 100ml): green/low: ≤2.5g, medium/amber: 2.5 to ≤11.25 g, high/red: >11.25g.

France's Nutri-Score system employs a nutrient profiling system, based on the UK FSA's model, and classifies foods and beverages according to five categories of nutritional quality, indicated via a colour scale ranging from green (grade A) to red (grade E).

The Keyhole system, used by Denmark, Iceland, Norway, Lithuania and Sweden, is based on a nutrient profile model. It aims to identify healthier packaged food choices within a food category and stimulate food manufacturers to reformulate and develop healthier products. Sugar and fat contents are one of the nutrient criteria, and thresholds depend on the product category.

These voluntary labelling measures are combined with pressure on the industry to reformulate processed foods to reduce the sugar content. Sometimes this involves taxes on products with high sugar, fat and salt content to dissuade consumers from purchasing them. A summary of these policy recommendations is shown in Table 1.

#### Table I: Summary of approaches to encourage reduced sugar consumption

Organisation	Recommendation
Public Health England (PHE) (2015) <sup>13</sup>	Set a clear definition of high-sugar foods – review and strengthen the Ofcom (regulator for the communications services) nutrient profile model.
International Diabetes Federation	Introduction of clear, colour-coded front-of-pack labelling giving total sugar content (including all types of sugars).  Revise healthy eating guidelines to reduce consumption of foods with naturally high sugar (e.g. dried fruit and fruit juices).  Public health campaigns to educate people about the health risks of excess sugar intake.
ANSES 2015 <sup>14</sup> (the French Agency for Food, Environmental and Occupational Health & Safety)	Raise the awareness of the population about the health effects of sugars from a very early age through information campaigns. The emphasis should be on nutritional education in schools, in which children should learn to identify products that contain sugars and limit them as part of a varied diet.  Make it mandatory to provide composition data on added sugars in manufactured products.
WHO Guideline 2015 <sup>15</sup>	Develop measures to reduce intake of free sugars through various public health interventions such as labelling and consumer education.  WHO proposes nutrient profile criteria for restricting marketing of foods to children, establishing limits (g/100g) per food category for total and added sugars; if these limits are exceeded in a food product, its marketing to children should not be permitted.

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<sup>13</sup> https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/470179/Sugar\_reduction\_The\_evidence\_for\_action.pdf

<sup>14</sup> https://www.anses.fr/en/system/files/NUT2012SA0186EN.pdf

<sup>15</sup> https://www.who.int/mediacentre/news/releases/2015/sugar-guideline/en/

## 3.2 Sugar reduction by country

Levies or taxes on high sugar food and drink products have been introduced in countries around the world where the problems of obesity are particularly chronic. Voluntary agreements have also been established with the food industry to reduce levels of fat, salt and sugar in food.

Hungary is at the forefront by putting a levy on certain products containing lots of sugar, salt and caffeine (according to OECD figures, in 2005 Hungary had the world's eighth highest obesity rate of 19%). By introducing a new tax in 2011, the government sought to generate revenue to improve the financing of health services – such as providing higher salaries for doctors and creating public health programmes – while reducing the consumption of unhealthy foods and promoting healthy eating.

Other countries, particularly in South America, have imposed measures to squeeze consumption: e.g. higher taxes, such as those in Mexico, or bans on advertising, which focus mainly on sugary drinks or other 'unhealthy' food products.

While the UK introduced a levy on high-sugar soft drinks in April 2018, in 2016, PHE set the challenge to reduce sugar in a range of products aimed at children by 20% by 2020, with 5% in the first year of the programme (August 2016 to August 2017). Unfortunately, the PHE reported in May 2018<sup>16</sup> that a reduction of just 2% had been achieved in the first year on average, although this overall figure masked some success stories in certain sectors (e.g. breakfast cereals). The review also recognised that industry plans were in the pipeline for further reductions.

The PHE targeted 10 food product categories: breakfast cereals, chocolate confectionery, sweet confectionery, yogurts and fromage frais, ice cream, lollies and sorbets, sweet spreads and sauces, cakes, biscuits, puddings, and morning goods such as croissants and buns.

Table 2 lists examples of policies that are already in place across the EU to address overconsumption of sugar. They aim to provide information, make the healthy option available, or provide financial disincentives to sugar consumption.

In a continuing effort, the governments may publish other measures to tackle problems originating from unhealthy diets in future. The Royal College of Paediatrics and Child Health in the UK, for example, is calling for a ban on unhealthy desserts given free with children's meals in restaurants, such as ice cream, cakes or other sugary sweets.

#### Table 2:

#### Policies in place that attempt to reduce overconsumption of sugar

#### **EU 2014 School food policy**

Various EU countries' school food policies include voluntary or mandatory standards that limit or forbid provision of foods or beverages high in sugars in school restaurants and canteens. Some policies specify upper limits for total daily energy intake from sugars (commonly ≤10%).

The EU fruit, vegetable and milk scheme, financed through the EU's Common Agricultural Policy, provides fruit, vegetables and milk to children in schools to increase their consumption. Among the criteria for products distributed to schools is that they should have no added sugars. Products containing limited quantities of sugars may be allowed if authorised by the relevant national health/nutrition authorities.

#### UK taxes and workplace policy

Vending machines dispensing sugary drinks are prohibited in National Health Service (NHS) hospitals in Wales.

Scottish government guidelines for NHS hospitals include removal of all soft drinks with >0.5g/100ml of sugar – excluding pure fruit juice. They also require at least 30% of snacks and confectionery, and 70% of refrigerated food, to meet nutrition criteria based on, among others, sugar content.

#### Belgium - taxes

Excise duty of €0.068 per litre for soft drinks, including non-alcoholic beverages and flavoured waters with added sugars.

#### France - taxe

Excise duty for drinks with added sugar and artificial sweeteners, including sodas and fruit drinks.

Since 2018 there is a tiered rate in place that varies according to sugar content.

Since January 2017, it has been prohibited to offer unlimited supply – for free or for a fixed price – of drinks with added sugars or synthetic sweeteners in all catering establishments open to the public. This includes hotels, holiday clubs, reception and training establishments, and housing for minors (e.g. schools).

#### Norway - taxes

In Norway, a tax of Kr20.82 (€2.13)/kg applies to chocolate and sugar products, while non-alcoholic beverages with added sugar/sweetener is taxed at Kr7.81 (€0.85)/kg.



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 $<sup>^{16}\,</sup>https://publichealthengland.exposure.co/sugar-reduction-programmed and one of the control of the contro$ 

#### Table 2:

#### Policies in place that attempt to reduce overconsumption of sugar

#### Finland - taxes

Excise duties have existed since 2011 on sweets. chocolate and non-alcoholic beverages. For sweets and ice cream, the tax is €0.95/kg. On beverages with more than 0.5% of sugar, the tax is €0.22/l, while for sweetener-based soft drinks and waters it is €0.11/l. Companies making less than 50,000l of product annually are exempt. A tax on sweets was abolished in January 2017, while the beverage tax remains in place.

#### **Hungary - taxes**

Tax applies at variable rates on the salt, sugar and caffeine content of various ready-to-eat food categories, including soft drinks (with sugar or sweeteners). The tax amounts to €0.02/I for products with more than 8g/100ml of added sugars. Drinks with more than 25% fruit or vegetable content or at least 50% of milk are exempt.

Added sugar in confectionery is taxed at €0.22/I for products with sugar content >25%, while for chocolate the threshold is at 40% of total sugars.

#### Denmark - taxes

Chocolate Tax Act' published in 2018. Extensive scope includes other confectionery (including chewing gum and other sugar-free products), and some transitional measures have been put in place until 1 Jan 2020.

#### Lithuania

In 2018 the country announced that its plans for a sugar tax were being put on hold in favour of voluntary measures with manufacturers to reduce sugar levels.

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Spain has no plans to introduce sugar taxes nationally, although a tax on sugary soft drinks has applied in the Catalan region since May 2018.

#### Ireland - taxes

In 2018 the country introduced a tax on added sugar content of >5g/100ml in sweetened beverages (with a higher tax amount for beverages ≥8g added sugar/100ml), similar to those in the UK.

#### Germany

Germany has no plans to introduce sugar taxes, although a voluntary National Reduction and Innovation Strategy is in place.

## 3.3 Reformulation of food and drink

The EU Platform for Action on Diet, Physical Activity and Health<sup>17</sup> is an EC-led and co-ordinated forum for EU stakeholder organisations. It involves various initiatives designed to protect consumers, in which the food industry and NGOs voluntarily commit to tackle current trends in unhealthy diets and lack of physical activity. Under this framework, the food sector is aiming to reformulate packaged foods and improve their nutritional profile by reducing their sugar content, among other nutrients.

Sweeteners<sup>18</sup> play a crucial role in sugar reduction and innovation in sweetened products is growing at an unprecedented rate to avoid products being caught by sugar taxes. However, this is not always possible since some European markets, such as France, are also taxing certain products made with sweeteners. Nevertheless, as consumers become more health-conscious, interest is increasing in novel sweeteners and these are coming under the spotlight of regulators.



Hungary has proved to be a success story in

encouraging manufacturers to reformulate their

products to make them healthier. The imposition of

Hungary's public health tax ('fat tax') has led 40%

of food manufacturers to change their recipes to

ingredients in order to avoid it. As a result, sales of

reduce or eliminate the amount of certain

'unhealthy' products have fallen by 27%.

Across the EU, various mandatory and voluntary policies are in place to restrict the marketing of foods high in fat, sugar, salt (HFSS) to children. The majority of the industry is self-regulating itself as part of an EU Pledge<sup>19</sup>, which is endorsed and supported by the World Federation of Advertisers.

In the UK, HFSS food advertisements before the 21.00 'watershed' are banned on traditional TV and radio channels. They are also banned from online and social media and magazines targeted at children, and in cinemas. In France, advertisements for drinks with added sugars, salt or artificial sweeteners or processed foods must contain health information.

In Spain, the sale of HFSS foods and beverages within schools is also banned. The Ministry of Health, Consumption and Social Welfare is also planning to introduce regulatory reform of legislation (No. 17/2011) on food safety and nutrition to prevent the sale of food and beverages with unhealthy nutritional profiles.

Lithuania has introduced initiatives to tackle childhood obesity and encourage healthier lifestyles, starting with children at a very young age. It has compiled a list of food products prohibited in kindergartens and schools.



Sweeteners<sup>18</sup> play a crucial role in sugar reduction and innovation in sweetened products is growing at an unprecedented rate to avoid products being caught by sugar taxes

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<sup>17</sup> https://ec.europa.eu/health/nutrition\_physical\_activity/platform\_en

<sup>18</sup> https://ec.europa.eu/jrc/en/health-knowledge-gateway/promotion-prevention/nutrition/sugars-sweeteners

<sup>19</sup> https://www.eu-pledge.eu/

## 4.0 The future

There is no conclusive evidence yet that imposing taxes on unhealthy food and beverages is having the positive outcomes advocates of such measures suggest.

Take Hungary, for example, where there has been no significant breakthrough in terms of consumers' consumption habits and lifestyles so far. While between seven and 16% of consumers switched to cheaper – often healthier – products when the tax came into effect, some switched to other sugary drinks, sugary dairy products, cookies and sweets.

Nevertheless, surveys have found that 30% of Hungarians reduced their consumption of packaged sweets; 22% reduced their consumption of energy drinks; and 19% have reduced their consumption of soft drinks.

But the evidence also suggests that taxes on HFSS food and drink hurts consumers on lower incomes. What's more, there are indications that these taxes are causing economic harm as a result of unintended consequences as manufacturers shed jobs or reduce investments in countries, such as Hungary, where sales declined.

Apart from a meeting with UNESDA, the European soft drinks association, which agreed on behalf of its members last autumn to reduce sugar content across their portfolio of products, and meetings to discuss benchmarking, EC officials have so far not met with the food industry to discuss meeting the target of a 10% reduction in added sugar, which DG SANTE – the EC department responsible for EU policy on food safety and health – maintains is feasible.

The three categories that the EC is focusing on are: sugar-sweetened beverages, where Ireland has the lead; breakfast cereals, which is led by the UK; and dairy products led by the Netherlands.



If in the future it is found that voluntary measures and taxes fail to have the desired results, there is a strong possibility that the maximum permitted levels of added sugars and salts will be regulated in some food and drink.



However, if in future it is found that voluntary measures and taxes fail to have the desired results, there is a strong possibility that the maximum permitted levels of added sugars and salts will be regulated in some food and drink. In Switzerland there is already a maximum level of salt that is permitted in salted butter.

Health campaigners argue that many lives could be saved if governments imposed tougher measures, such as taxes and further restrictions on the sale of sugary drinks, as well as high fat and salty food products. But it is yet to be proved whether such measures – or, indeed, reformulation – will have any impact on reducing obesity.

Obesity is a complex issue that needs more than a tax to resolve it. Better education of the public is needed – starting with young children – into what

constitutes a healthy lifestyle, combined with a better understanding of nutrition and portion control and the need to remain active. Only by adopting a combination of measures can we hope to turn the obesity tide and help people to live longer, more active and healthier lives. The debate will inevitably continue.

In the meantime, whichever path governments and regulators take, it is certain that pressure on food and drink manufacturers to reduce the sugar content of their products will intensify and they will need to remain one step ahead. Leatherhead Food Research is well placed to support them.

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#### About Leatherhead Food Research

Leatherhead Food Research provides expertise and support to the global food and drink sector with practical solutions that cover all stages of a product's life cycle from consumer insight, ingredient innovation and sensory testing to food safety consultancy and global regulatory advice. Leatherhead operates a membership program which represents a who's who of the global food and drinks industry. Supporting all members and clients, large or small, Leatherhead provides consultancy and advice, as well as training, market news, published reports and bespoke projects. Alongside the member support and project work, our worldrenowned experts deliver cutting-edge research in areas that drive long term commercial benefit for the food and drink industry. Leatherhead Food Research is a trading name of Leatherhead Research Ltd, a Science Group Company.

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