



DECEMBER 2020

## NUTRI-SCORE & SOFT DRINKS

### PROPOSALS FOR OPTIMIZING THE NUTRI-SCORE ALGORITHM FOR BEVERAGES TO ENCOURAGE REFORMULATION AND SUPPORT INFORMED CHOICES

#### Executive summary

In May 2020, when the European Commission published its “Farm to Fork Strategy” it stated its objective to propose a harmonized, mandatory front-of-pack nutrition labelling (FOPNL) scheme at European level to provide additional nutrition information to consumers to help them make more informed choices.

The European soft drinks industry, as represented by UNESDA, fully supports the ambitions of the European Commission to develop an EU harmonized approach. The host of front-of-pack nutritional labelling schemes which have emerged across Europe fragments the single market and compromises EU competitiveness. This was acknowledged in [the Commission’s report on front-of-pack nutritional labelling](#)<sup>1</sup> published in May 2020 in which it was mentioned that “... *different FOP schemes are recommended by different Member States, which can result in additional labelling costs for food business operators if they want to use the recommended label and have to change the packaging in function of the national market concerned*”.

Furthermore, and even more importantly, the plethora of schemes have the potential to confuse consumers as confirmed by the European Commission’s Joint Research Centre in [its recent review of front-of-pack nutrition labelling schemes](#)<sup>2</sup>: “*The presence of many schemes may generate information overload*”. Furthermore, the same food/ingredient can score differently under the various schemes.

**The objective of this report is to analyse the impact on soft drinks of the [Nutri-Score front-of-pack labelling scheme](#), created by the French public health agency (Santé Publique France)<sup>3</sup> and supported by several EU Member States.**

<sup>1</sup> Report from the commission to the European Parliament and the Council regarding the use of additional forms of expression and presentation of the nutrition declaration. May 2020. [https://ec.europa.eu/food/sites/food/files/safety/docs/labelling-nutrition\\_fop-report-2020-207\\_en.pdf](https://ec.europa.eu/food/sites/food/files/safety/docs/labelling-nutrition_fop-report-2020-207_en.pdf)

<sup>2</sup> Storcksdieck genannt Bonsmann et al. Front-of-pack nutrition labelling schemes: a comprehensive review., 2020. [https://publications.jrc.ec.europa.eu/repository/bitstream/JRC113586/kjna29811enn\\_1.pdf](https://publications.jrc.ec.europa.eu/repository/bitstream/JRC113586/kjna29811enn_1.pdf)

<sup>3</sup> Santé Publique France. Nutri-Score Frequently Asked Questions. October 2020.

[https://www.santepubliquefrance.fr/content/download/150263/file/QR%20scientifique%20et%20technique\\_EN\\_271020.pdf](https://www.santepubliquefrance.fr/content/download/150263/file/QR%20scientifique%20et%20technique_EN_271020.pdf)

**This report should not be regarded as an endorsement by UNESDA for Nutri-Score as the potential future EU FOPNL.**

This report considers the application of the specific Nutri-Score algorithm for *beverages*, which differs from the algorithm for all other foodstuffs.

The report is structured as follows:

- The first part is a scientific review co-authored by LinkUp Factory and UNESDA. It identifies key success factors for FOPNL in order to meet the dual public health objectives. These public health objectives are firstly to optimize consumer information about the overall nutritional content of food and, secondly, to encourage food producers to improve nutritional content (Herberg, 2014). The principal focus of this review will be linked to Nutri-Score.
- The second part analyses the performance of Nutri-Score in relation to soft drinks. To be concrete and to complement the previous work based on scientific literature, three countries were selected (Belgium, France, Spain) for which the current impact of Nutri-Score was explored on an extensive database of soft drinks, representing at least 75% of the market share in each market. The current Nutri-Score algorithm for beverages was then assessed in comparison to three alternative approaches proposed by UNESDA for optimizing the current Nutri-Score algorithm to meet stated public health objectives. The three approaches are:
  - **Approach #1:** Alignment with the sugar thresholds set out by the EU Nutrition and Health Claims Regulation for relevant nutrition claims
  - **Approaches #2 and #3:** No change to the sugar thresholds of the Nutri-Score algorithm but, rather, slight evolutions to the points Nutri-Score allocates for each ranking

This report aims to further inform dialogue and engagement with public health experts - as relevant and appropriate - in order to identify the most appropriate optimization of the Nutri-Score system for beverages in line with the dual public health objectives of helping people make the most informed choices and incentivizing reformulation.

The scientific review identified three fundamental requirements for a FOPNL scheme to meet the public health objectives mentioned above:

- 1/ consistency with EU legislation on nutrition and health claims to avoid consumer confusion caused by contradictory information on labels
- 2/ offering consumers a balanced distribution *within* the category that reflects nutritional content accurately and hence, helps them make more informed choices; and
- 3/ incentivising food and beverage producers to reformulate their products.

## Nutri-Score scheme for beverages

Following an extensive, fact-based evaluation as outlined in this report, it can be concluded that the current Nutri-Score system for beverages is not optimized to support the two key objectives for a front of pack nutrition labelling scheme: to incentivize reformulation and to help people make more informed choices.

The analysis of the current Nutri-Score scheme for beverages for all three countries showed:

1. **A misalignment between Nutri-Score and the EU Nutrition and Health Claims Regulation**, resulting in contradictory on-pack messages for the consumer and potential confusion. For example, a product with a “low energy” claim is assigned a ‘D’ ranking according to the current Nutri-Score algorithm, giving consumers conflicting messages on the same product.
2. **An imbalance in the distribution of products within the same category, in this case soft drinks, across the Nutri-Score scale** (i.e. A-E rankings, with A being the highest ranking). As a result, consumers are not provided with the appropriate information to select the soft drink containing less sugar. This is particularly striking for France, where more than 80% of soft drinks are ranked D or E even with an extremely wide variation in sugar content.
3. **The current Nutri-Score scheme does not incentivise soft drinks producers to reformulate** and pursue improved rankings of B or C<sup>4</sup>, even with reformulations as high as 50%. Once a soft drink exceeds 0 grams of sugar, it is immediately given a C ranking, even for a sugar content as low as 0.1 grams. This is not the same approach as applied to foods and does not provide consumers with the appropriate information to choose the soft drink with less sugar.

## Options to consider

UNESDA proposes, for consideration, three alternative approaches to optimize the Nutri-Score algorithm for beverages.

Each of these slightly different approaches would:

- align the Nutri-Score scheme for beverages more closely with the EU Nutrition and Health Claims Regulation and thereby reduce the potential for contradictory information to the consumer;
- improve the distribution of products across the various Nutri-Score rankings; and
- provide a greater incentive for soft drinks producers to reformulate and pursue improved rankings.

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<sup>4</sup> The A ranking does not apply for soft drinks as it has been allocated to water only in the current Nutri-Score algorithm for beverages.

## **Overview of LinkUp Factory and UNESDA**

### **LinkUp Factory**

Linkup Factory is a French agency specialized in providing advice, including on communications, in relation to Corporate Social Responsibility, behaviour changes and nutrition. The agency has been working for more than 10 years with international food companies, professional organizations, governmental and non-governmental organisations, and experts notably to improve companies' nutrition commitments and policies and to develop public health programmes, such as 'Vivons en Forme' for the French Regional Health Agency. Linkup Factory's teams include food engineers, specialized in nutrition and public health.

Linkup Factory was selected in 2016 to implement the national experiment mandated by the French Health Ministry to study the performance of four nutrition labelling systems (including Nutri-Score) in "real life" conditions in France<sup>5</sup>. This led to the selection by the French authorities in March 2017 of Nutri-Score as a voluntary nutrition labelling scheme.

Linkup Factory also has social marketing expertise and develops campaigns and concrete actions in the community, such as to prevent childhood obesity, foster handwashing in schools and stimulate tobacco cessation amongst youngsters.

### **UNESDA**

UNESDA is the European association responsible for all soft drinks legislated horizontally at EU level except those for which there is specific vertical EU legislation, i.e. fruit juices, nectars and natural mineral and spring waters. Examples of the wide range of products within UNESDA's scope include dilutable drinks, ice teas, energy drinks, sports drinks, colas and juice drinks.

Soft drinks produced by UNESDA members are, for the large part, sweetened - some by sugars (either added or in the fruit used as an ingredient), some by low- and no-calorie sweeteners containing few or no calories, and others by a combination of both sugar and low and no-calorie sweeteners. For soft drinks, energy (calories) is generally only derived from sugars. Consequently, reformulation of soft drinks to reduce sugar content directly results in calorie reduction.

UNESDA membership comprises 24 national soft drink associations around Europe as well as nine corporate members.

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<sup>5</sup> [http://alimentation-sante.org/wp-content/uploads/2016/07/Communique\\_presse\\_FFAS\\_Experimentation\\_Etiquetage\\_nutritionnel\\_simplifie\\_lundi\\_1\\_juillet2016.pdf](http://alimentation-sante.org/wp-content/uploads/2016/07/Communique_presse_FFAS_Experimentation_Etiquetage_nutritionnel_simplifie_lundi_1_juillet2016.pdf)

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## Introduction: Labelling and soft drinks - a partnership aiming at producing public health benefits

UNESDA's firm belief is that consumers of soft drinks should have access to easily understandable 'at a glance' front-of-pack nutrition labelling ('FOPNL'). In fact, as far back as 2008, UNESDA was the first food and drink sector in the world to voluntarily provide on front of pack the amount of calories and sugars in a serving of a soft drink and what these represent as a percentage of total 'guideline daily amounts' (now referred to as 'reference intakes').

Nutrition labelling has been defined by the Food and Agricultural Organisation of the United Nations (FAO) since 1985, and in 1993 the addition of supplementary nutritional information on packaging was set out in [guidelines by the Codex Alimentarius](#)<sup>6</sup>. Since then, a host of different FOPNL schemes have emerged across Europe, thereby creating fragmentation across the Single Market. The European Commission has expressed its intention to select a harmonized mandatory front-of-pack nutrition labelling approach by 2022, as part of its [Farm to Fork Strategy](#).

Currently, in Europe, the most widespread of the more recent schemes is the Nutri-Score system.



Nutri-Score was created in 2016 under the supervision of French Professor Hercberg, then President of the 'Programme National Nutrition Santé' – the French National Programme for Nutrition and Health. Combining a letter with a colour, Nutri-Score labelling on front of pack aims to inform consumers at a glance about the nutritional content of a product.

Products are positioned on a 5-level scale, going from those ranked as the most nutritionally "favourable" product (classified A-dark green) to the "least favourable" (classified E-red).

This system was selected by the French authorities in March 2017 as a voluntary labelling scheme to be displayed on food products<sup>7</sup>. As well as being widely used in France, Nutri-Score is also now the favoured FOPNL scheme of the Belgian, Dutch, German, Luxembourg, Portuguese, Spanish and Swiss authorities. In addition, it has become the scheme of choice for some of Europe's major supermarket chains and leading food and beverage companies.

<sup>6</sup> [https://ec.europa.eu/food/sites/food/files/safety/docs/f2f\\_action-plan\\_2020\\_strategy-info\\_en.pdf](https://ec.europa.eu/food/sites/food/files/safety/docs/f2f_action-plan_2020_strategy-info_en.pdf)

<sup>7</sup> <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000039034274/>

## Overview of the aims and objectives of this report

The purpose of this report is to demonstrate that the current Nutri-Score rating system applied to beverages needs to be optimized in order to meet two fundamental objectives of FOPNL: 1) helping consumers to make more informed choices and 2) incentivizing industry to reformulate its products.

Notably, there is a lack of alignment between Nutri-Score and the [EU Nutrition and Health Claims Regulation 1924/2006](#)<sup>8</sup>. This results in contradictory on-pack messages and potential consumer confusion. For example, a product with a “low energy” claim can fall in the ‘D’ ranking in current Nutri-Score algorithm, giving consumers two conflicting messages on the same product.

On the basis of independent - mainly public health - studies, we will show:

- how the distribution of products within a category plays a decisive role in directing consumer choice towards products with lower levels of sugars and calories; and
- outline the optimal conditions to stimulate product reformulation within a category of products.

In this way, it will be demonstrated that FOPNL can indeed be a viable lever to contribute to public health, in combination with other levers conducive to fostering healthier lifestyles (e.g. nutrition education, promotion of physical activity programmes, etc).

Our scientific analysis will be complemented by an assessment of three different approaches to the Nutri-Score classification system for beverages with the aim of delivering on the labelling objectives noted above.

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<sup>8</sup> <https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32006R1924>



## PART A: FRONT OF PACK NUTRITION LABELLING - THE DUAL OBJECTIVES OF PUBLIC HEALTH

This part of the report consists of a literature review of relevant studies on nutrition labelling. Its aim is to identify the key success factors for front of pack nutrition labelling (FOPNL) systems, based on conclusions of scientific studies, meta-analyses and reviews.

- Section 1: Provides historical and regulatory context around FOPNL.
- Section 2: Develops key arguments and studies derived from the scientific literature review to identify the optimal conditions for FOPNL to encourage consumers to choose products with lower levels of sugars and calories.
- Section 3: Develops key arguments and studies based on the scientific literature review to identify the optimal conditions of FOPNL for encouraging food and beverage companies to reformulate.

### 1. Historical and regulatory context of front-of-pack nutrition labelling

#### 1.1. Overall context regarding complementary nutrition labelling

In 1985, the FAO provided a definition of nutrition labelling, then revised in 1993 in [the FAO Codex Alimentarius guidelines on nutrition labelling](#)<sup>9</sup> :

*“Nutrition labelling is a description intended to inform the consumer of nutritional properties of a food. Nutrition labelling consists of two components: nutrient declaration; [and] supplementary nutrition information.” (FAO, 1993).*

The content, format and positioning on the packaging of this “supplementary nutritional information” has been at the heart of discussions for decades at European level. However, there is general agreement on the overall aims of nutrition labelling – i.e. to enable comprehensive understanding of nutrition information by consumers and thus stimulate healthier choices.

In December 2006, at European Union level, [Regulation \(EC\) no 1924/2006 on Nutrition and Health Claims](#)<sup>10</sup> was adopted. The main aim of this legislation was to harmonize legislation on claims and thereby to support the free movement of goods between EU member states.

Since December 2016, further to the adoption of [Regulation \(EU\) No 1169/2011 on food information to consumers](#)<sup>11</sup> most pre-packed foods must display mandatory nutrition

<sup>9</sup> <https://www.fao.org/3/Y2770E/y2770e06.htm>

<sup>10</sup> <https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32006R1924>

<sup>11</sup> <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32011R1169>

information, including content of energy and key macronutrients. This is usually located on the back of the packaging in the form of a table.

This mandatory declaration can be complemented by a voluntary simplified nutrition information in the principal field of vision of consumers (known as the 'front of pack' or 'FOP'), in order to help them see "at a glance" the essential nutrition information when purchasing foods. Alternative forms of expression, such as graphical forms or symbols, can also be used.

Details of conditions are developed in Article 35 of [Regulation \(EU\) No 1169/2011](#)<sup>12</sup>. For example, these forms of expression should:

- ...*"be based on sound and scientifically valid consumer research and do not mislead the consumer as referred to in Article 7;"*
- ...*be "the result of consultation with a wide range of stakeholder groups;"* and
- ...*"aim to facilitate consumer understanding of the contribution or importance of the food to the energy and nutrient content of a diet".*

When it comes to food information provided on a voluntary basis, Article 36 of [this Regulation](#) requires that this "... shall ... not mislead the consumer .... not be ambiguous or confusing for the consumer; and, where appropriate, be based on the relevant scientific data."

The World Health Organization ('WHO') later emphasized the aim of such a FOPL in its report "[Guiding principles and framework manual for front-of-pack labelling for promoting healthy diets](#)", published in 2019<sup>13</sup>:

*"The principal aim of FOPL is to provide convenient, relevant and readily understood nutrition information or guidance on food packs, to assist all consumers to make informed food purchases and healthier eating choices. An additional benefit is to stimulate favourable compositional changes to food products available in retail outlets."* (World Health Organization, 2019).

## **1.2. A variety of FOPNL schemes developed across Europe**

Since the 2000s, more national governments and/or public health and academic institutions have been proposing the voluntary establishment of FOPNL. Numerous indicators and systems emerged, based on different approaches ([Figure 1](#)).

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<sup>12</sup> <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32011R1169>

<sup>13</sup> <https://www.who.int/nutrition/publications/policies/guidingprinciples-labelling-promoting-healthydiet.pdf?ua=1>









Taxonomies put forward in the literature				Examples of FOP schemes		Developer	EU Member State
Nutrient-specific labels	Numerical	Non-directive	Reductive (non-interpretative)	Reference Intakes label		Private	Across the EU
				NutrInform Battery		Public	IT
	Colour-coded	Semi-directive	Evaluative (interpretative)	UK FOP label		Public	UK
				Other 'traffic light' labels		Private (retailers)	PT, ES
Summary labels	Positive (endorsement) logos	Directive	Evaluative (interpretative)	Keyhole		Public	SE, DK, LT
				Heart/Health logos		NGO Public	FI, SI HR
				Healthy Choice		Private	CZ, PL Phased out in NL
	Graded indicators			Nutri-Score		Public	FR, BE ES, DE, NL, LU

Figure 1: [Different FOPL in European Union States and UK](#) (European Commission, 2020)<sup>14</sup>

There are two types of FOPNL: Nutrient-specific labels and summary labels:

- Nutrient-specific labels use numerical information to quantify nutrients (such as the Multiple Traffic Light label)
- Summary labels use a customizable continuum to evaluate overall healthiness (such as the Nutri-Score).

### **1.3. Towards an effective and harmonized FOPNL at European level**

Although the WHO 2019 report states in one of its 15 principles that to optimize the efficiency of FOPNL ([Appendix 1](#)) only one harmonized system should be developed to improve the impact of the FOPNL system, there is currently no single FOPNL system validated at European level. (World Health Organization, 2019)

While there is currently no consensus among EU member states the European Commission, however, has stated its objective to propose a mandatory harmonized EU FOPNL system. In its "[Farm to Fork Strategy: For a fair, healthy and environmentally friendly food system](#)"<sup>15</sup> (May 2020), the European Commission expresses concern about current food consumption patterns, which it considers to be unsustainable, both from a health and an environmental point of view. The European Commission asserts that it is essential to reverse the current trends by 2030, with nutritional labelling being part of the action plan:

*"To empower consumers to make informed, healthy and sustainable food choices, the Commission will propose harmonized mandatory front-of-pack nutrition labelling..."* [...]

<sup>14</sup> [https://ec.europa.eu/food/sites/food/files/safety/docs/labelling-nutrition\\_fop-report-2020-207\\_en.pdf](https://ec.europa.eu/food/sites/food/files/safety/docs/labelling-nutrition_fop-report-2020-207_en.pdf)

<sup>15</sup> [https://ec.europa.eu/food/sites/food/files/safety/docs/f2f\\_action-plan\\_2020\\_strategy-info\\_en.pdf](https://ec.europa.eu/food/sites/food/files/safety/docs/f2f_action-plan_2020_strategy-info_en.pdf)

*“By Q4 2022: Proposal for a harmonized mandatory front-of-pack nutrition labelling to enable consumers “to make health conscious food choices” (European Commission, 2020).*

One of the FOPNL systems that the Commission is expected to evaluate is Nutri-Score.

In 2014, in a [report published by Professor Hercberg](#),<sup>16</sup> the establishment of a FOPNL system was proposed to be included in French public health nutrition policy. [Studies](#) were then published in France in 2014<sup>17</sup> evaluating how the UK-developed FSA score<sup>18</sup> impacted French products (Julia, et al., 2014). Subsequently, in 2015, [the performance of a scoring system based on the FSA score and split into five colours was evaluated](#) (Julia, et al., 2015)<sup>19</sup>. Nutri-Score (as it is now known) was officially adopted in France in 2017.

In 2020, among the variety of FOPNL systems introduced in the EU thus far, Nutri-Score is the most widely supported. After being adopted in France in 2017, it has now been adopted - or supported - by Belgium, Germany, Luxembourg, Netherlands, Portugal, Spain and Switzerland. Currently, the use of any FOPNL in any EU Member State remains voluntary as per EU legislation by a food operator or a national government, so long as specific criteria are met (Article 36, FIC Regulation).

Based on above-mentioned report published by Professor Hercberg, FOPNL is required to have two main objectives:

1. **Inform consumers**, at the time of purchase, about the overall nutritional content of food, enabling them to make informed choices.
2. **Encourage manufacturers to improve the nutritional content of the food they produce** and offer them the opportunity through the nutritional labelling system to reward their reformulation efforts.

The aim of the following sections will be to examine in more detail the optimal conditions for FOPNL for beverages to meet both these public health objectives.

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<sup>16</sup><https://solidarites-sante.gouv.fr/ministere/documentation-et-publications-officielles/rapports/sante/article/propositions-pour-un-nouvel-elan-de-la-politique-nutritionnelle-de-sante>

<sup>17</sup>[https://www.cambridge.org/core/services/aop-cambridge-core/content/view/DC2AB3C0EE6DD7A00E600E25B1A76C4F/S0007114514002761a.pdf/application\\_of\\_the\\_british\\_food\\_standards\\_agency\\_nutrient\\_profiling\\_system\\_in\\_a\\_french\\_food\\_composition\\_database.pdf](https://www.cambridge.org/core/services/aop-cambridge-core/content/view/DC2AB3C0EE6DD7A00E600E25B1A76C4F/S0007114514002761a.pdf/application_of_the_british_food_standards_agency_nutrient_profiling_system_in_a_french_food_composition_database.pdf)

<sup>18</sup>The FSA score is the nutrient profiling scheme used for the Nutri-score algorithm. It was developed in the United Kingdom with the aim of measuring the nutritional quality of food based on its nutrient/energy content and taking into account, specifically, energy, saturated fat, sugars, salt, protein, fibres and the percentage of fruits and vegetables. Each nutrient is given points depending on the content in 100g of product. A global score is then computed, ranging from -15 to 40, with the “best” score being -15.

<sup>19</sup> <https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186/s12889-015-1522-y>

## 2. Optimal conditions to stimulate consumer choice towards healthier diets

### 2.1. Growing consumer expectations on nutrition labelling

In [its consumer research conducted](#) in 2005<sup>20</sup>, BEUC (The European Consumer Organization) interviewed consumers in 5 countries (Denmark, Germany, Hungary, Poland, Spain) to better understand consumer perceptions and expectations of nutrition labelling. This study showed that even consumers who declared not to be interested in nutrition would like to see a food indicator on packaging. Indeed, 89% of participants who were interested “a lot” in nutrition were interested in having a food indicator on food packaging, and, more surprisingly, 39% of participants who were not interested “at all” in nutrition were also interested in having a food indicator on food packaging.

The year after, European Commission issued a [consultative document on labelling](#)<sup>21</sup>, BEUC (The European Consumer Organization) [made comments](#)<sup>22</sup> such as “*One of the fundamental consumer rights is that of consumer choice. To exercise their right of choice between one product and another, consumers must have access to product information that is accurate and understandable, and that allows comparisons to be made between competing products.*”

This trend that emerged in 2005 grew over the years, with an increase in consumer interest in the quality of food and beverages they consume every day. In [a study](#) conducted by Kantar Panel on the behaviour, attitudes and expectations of consumers in 10 countries/areas of the world<sup>23</sup>, results show that in France, Germany and Spain, respectively 62%, 59% and 74% of consumers report paying greater attention to choosing what they consider to be high quality food products. In France, Germany and Spain, for 63%, 56% and 70% of consumers respectively “eating well” means “healthy eating”. [This study](#) evidences the growing interest of consumers especially in Europe for healthier food, for more transparency, and for more (perceived) quality.

Many studies in the scientific literature show the positive impact of FOPNL on consumer understanding of nutrition.

[A meta-analysis](#) led by Ikonen et al in 2019<sup>24</sup> studied the findings of 114 articles on the impact of FOPNL on consumers’ ability to identify healthier options, product perceptions, purchase behaviour, and consumption. [The meta-analysis](#) showed that front-of-pack nutrition labelling is an efficient way to help consumers identify the healthier product, but there is a gap between identification of healthier options and actual behaviour change to switch to the healthier option. Indeed, the authors concluded that encouragement towards healthier purchases is still limited. This meta-analysis shows that the process influencing consumers to make

<sup>20</sup> [https://www.vzbv.de/sites/default/files/mediapics/beuc\\_foodstuffs\\_labelling\\_09\\_2005.pdf](https://www.vzbv.de/sites/default/files/mediapics/beuc_foodstuffs_labelling_09_2005.pdf)

<sup>21</sup> [https://ec.europa.eu/food/sites/food/files/safety/docs/labelling-nutrition\\_better-reg\\_competitiveness-consumer-info\\_en.pdf](https://ec.europa.eu/food/sites/food/files/safety/docs/labelling-nutrition_better-reg_competitiveness-consumer-info_en.pdf)

<sup>22</sup> [https://ec.europa.eu/food/sites/food/files/safety/docs/labelling-nutrition\\_better-reg\\_indiv-resp\\_93.pdf](https://ec.europa.eu/food/sites/food/files/safety/docs/labelling-nutrition_better-reg_indiv-resp_93.pdf)

<sup>23</sup> [https://www.sial-network.com/Food-Trends/Food-trends-analysis-CONSUMER-DEMANDS?utm\\_source=Social%20Media](https://www.sial-network.com/Food-Trends/Food-trends-analysis-CONSUMER-DEMANDS?utm_source=Social%20Media)

<sup>24</sup> <https://link.springer.com/article/10.1007/s11747-019-00663-9>

healthier choices goes through two steps: 1/ easy identification of what the healthier option is; and 2/ the change of behaviour to actually purchase the healthier option.

This meta-analysis proves FOPNL does have positive effects on consumer identification of healthier options but is not particularly efficient in actually 'nudging' them towards healthier choices.

Furthermore, it should also be considered that, regardless of the relevance and effectiveness of FOPNL, the act of purchase can be influenced by multiple external factors such as price, setting, time, fatigue, brand familiarity. Indeed, this was confirmed in an "[Overview of existing and proposed FOP schemes, including literature review of research regarding the development of the schemes, their impact on consumers and other effects](#)" presented by the Joint Research Centre of the European Commission<sup>25</sup>. Purchasing decisions are influenced by factors such as prices and discounts; time constraint; taste; habit; cognitive load and fatigue. Furthermore, the authors highlight "*evaluative and reductive systems are related to opposite cognitive process*".

#### Summary:

- ⇒ Consumers confirm they pay more and more attention to the nutritional content of the food they consume (Kantar panel, 2018).
- ⇒ It can be concluded from [an international analysis](#)<sup>26</sup> of a multitude of studies that consumers recognize **the benefits of FOPNL and efficiently identify healthier options and, depending on the system and the context, FOPNL can encourage healthier food choices** (Ikonen, Sotgiu, Aydinli, & Verlegh, 2019).
- ⇒ However, FOPNL is not particularly efficient in 'nudging' consumers towards healthier choices.

## **2.2 Importance of a high rate of consistency between nutrition claims and front-of-pack nutrition labelling**

Consistency of nutrition information on is key in providing understandable information to consumers: This is why it is essential to ensure that nutrition labelling (such as Nutri-Score) and nutrition claims do not give contradictory information to the consumer.

This requirement is highlighted by the WHO which published [15 principles](#) in 2019 ([Appendix 1](#)) - "[Guiding principles and framework manual for front-of-pack labelling for promoting healthy diet](#)"<sup>27</sup> to optimize FOPNL and maximise understanding by consumers. These

<sup>25</sup> [https://ec.europa.eu/food/sites/food/files/safety/docs/comm\\_ahac\\_20181022\\_pres-04.pdf](https://ec.europa.eu/food/sites/food/files/safety/docs/comm_ahac_20181022_pres-04.pdf)

<sup>26</sup> <https://link.springer.com/article/10.1007/s11747-019-00663-9>

<sup>27</sup> <https://www.who.int/nutrition/publications/policies/guidingprinciples-labelling-promoting-healthydiet.pdf?ua=1>



principles are based on various scientific studies analyzed by the WHO. Among these principles:

- *“the FOPL system should be aligned with national public health and nutrition policies and food regulations as well as with relevant WHO guidance and Code guidelines.”* (Principle 1)
- *“the FOPL system should enable appropriate comparisons between food categories, within a food category, and between foods within a specific food type.”* (Principle 10) (World Health Organization, 2019)

[These principles](#) highlight the importance of ensuring that any FOPNL is fully aligned with food legislation and with health and nutrition policies. This will help achieve consistent and clear information to support consumer understanding and help them efficiently compare products within the same category. In addition, it will ensure that they are not confronted with misleading and confusing information resulting from a ‘mismatch’ between the FOPNL and the nutrition claim.

Any such mismatch between nutrition claims on the packaging and FOPNL such as the Nutri-Score has the potential to create **cognitive dissonance**. Cognitive dissonance is a key notion to consider in terms of consumer behaviour. The definitive study from Kassirjian and Cohen - [“Cognitive dissonance and consumer behaviour”](#) published in 1965<sup>28</sup> – was the first to note that a lack of cognitive consistency may have a substantial effect on consumers’ acts and decisions. **When faced with an ambiguous situation for understanding messages or taking a decision, consumers tend to seek an inaccurate interpretation to reduce confusion** (Kassirjian & Cohen, 1965).

This demonstrates why consistency is necessary between nutrition claims regulated at EU level and FOPNL such as Nutri-Score to help consumers understand the nutrition information for a food or drink and in turn, make the most informed choice.

To highlight the importance of the consistency of information provided, some studies have investigated the correlation between claims and FOPNL systems and the impact on consumer understanding. Although the majority of scientific literature has focused on the impact of contradictory messages with health claims and FOPNL rather than nutrition claims, the consumer insights gathered can further inform our assessment of the potential confusions for consumers with nutrition claims.

With regard to the consistency between FOPNL and health claims, [a systematic review](#) of 24 studies by Talati et al in 2017<sup>29</sup> investigated the potential cognitive biases that could occur when nutritional information such as the US ‘nutrition facts panel’ and front-of-pack labels appear on-pack alongside health claims. The authors concluded that the nutrition facts panel can help reduce the bias - but only if the panel is well understood by consumers, which is unfortunately not often the case (Talati, et al., 2017).

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<sup>28</sup> <https://journals.sagepub.com/doi/10.2307/41165660>

<sup>29</sup> <https://academic.oup.com/nutritionreviews/article/75/4/260/3076821>

[This review](#) shows that one of the ways to improve consumer understanding of health claims is the simplification of the nutrition facts panel (akin to the EU back of pack nutrition information). This objective could be reached with FOPNL: the complementary nutritional information on the front of pack - when consistent with health claims – helps to avoid consumer confusion. The same assumption could be made for nutrition claims.

[The European legislation regulating nutrition and health claims](#) has been in place for almost 15 years<sup>30</sup>, validated and monitored by member states' public health experts across the EU taking into account the understanding of these messages by consumers (European Parliament, Council of the European Union, 2006). Over the years, consumers have become used to these claims, depending on them to guide their choices.

In [the European Commission's view](#)<sup>31</sup>, when the Nutri-Score logo attributes a positive message (i.e. green colour – light green or dark green), it also fulfils the legal definition of a "nutrition claim" as it provides information on the beneficial nutritional content of a food as defined in [Regulation \(EC\) No 1924/2006](#) (Claims Regulation)." (Commissioner Andriukaitis, 2019).

**Thus, it makes full sense from both a practical and legal perspective that the addition of any complementary nutrition information to help consumers make even more informed choices should be aligned with the EU Nutrition and Health Claims Regulation.**

Finally, in addition to the conditions as mentioned above in Articles 35 and 36 of [Regulation \(EU\) No 1169/2011](#)<sup>32</sup> on Food Information to Consumers, the importance of not misleading the consumer by bringing potentially contradictory messages is also underlined in Article 7 of Regulation (EU) No 1169/2011:

*"Food information shall not be misleading, particularly:*

- *as to the characteristics of the food and, in particular, as to its nature, identity, properties, composition, quantity, durability, country of origin or place of provenance, method of manufacture or production;*

*[...]*

- *by suggesting, by means of the appearance, the description or pictorial representations, the presence of a particular food or an ingredient, while in reality a component naturally present or an ingredient normally used in that food has been substituted with a different component or a different ingredient."* (European Parliament, Council of the European Union, 2011)

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<sup>30</sup> [https://ec.europa.eu/food/safety/labelling\\_nutrition/claims/nutrition\\_claims\\_en](https://ec.europa.eu/food/safety/labelling_nutrition/claims/nutrition_claims_en)

<sup>31</sup> [https://www.europarl.europa.eu/doceo/document/P-9-2019-003026-ASW\\_EN.pdf](https://www.europarl.europa.eu/doceo/document/P-9-2019-003026-ASW_EN.pdf)

<sup>32</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32011R1169&from=FR>



## Summary:

- ⇒ Conclusions that emerge from literature and reports, supported by [the WHO Principles](#), identify that a key criterion of success of any FOPNL is that it should ensure **consistency with health and nutrition claims**. The EU Food Information to Consumers [Regulation \(EC\) No 1169/2011](#) (Articles 7 and 35 could be interpreted that if Nutri-Score is not aligned with the EU Nutrition and Health Claims Regulation it may be misleading for consumers and therefore not in line with one of the guiding principles of EU food labelling legislation.
  
- ⇒ **Complementarity** between FOPNL and any nutrition claims on the product will support **consumer understanding and therefore help achieve public health objectives** by equipping consumers with the coherent information to identify healthier options.

### **2.3. Nutri-Score is even more impactful if products are well distributed on the scale within the same product category**

Complementary nutrition information, and in particular FOPNL, aims to help consumers make the healthier choice within a specific food category (cereals, soft drinks, fresh prepared foods, etc...) and not between food categories.

In order for FOPNL to help consumers make an informed choice within a specific food category, the distribution of products within that category should be balanced and reflect accurately the differences in nutritional content in each product.

To illustrate this notion and to better define what can be considered as “balanced distribution”, [a study](#) involving the creators of Nutri-Score and published in 2020 mentioned that “*discriminating performance was considered satisfying when at least three classes of Nutri-Score were available in the food group*” (Dréano-Trécant, et al., 2020)<sup>33</sup>. In [this study](#), the authors evaluated the acceptability of Nutri-Score in eight European countries (Finland, France, Norway, Poland, Portugal, Slovakia, Sweden, and Switzerland) through the European Food Information Resource (EUROFIR) nutritional composition databases. They aimed to verify that the performance of the algorithm to discriminate foods in the same group according to their nutritional content.

In 2016, [a wide-ranging experiment](#) was performed in France in real life conditions, studying the performance of Nutri-Score alongside “Nutri-Couleurs” (also known as Multiple Traffic Lights), SENS and Nutri-Repère (close to the ‘Reference Intake’ system – see [figure 1](#)). The experiment lasted for 10 weeks in 40 supermarkets (10 supermarkets per FOPNL system) in addition to 20 supermarkets with no FOPNL system that were chosen as controls. Four categories of products were labelled: “Fresh prepared foods”, “Pastries”, “Breads” and “Canned prepared foods”. Consumers were informed of the local intervention in each participating supermarket by leaflets and displays.

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<sup>33</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7284849/>

Retailers provided data on their cardholders' purchases for two periods: the ten weeks during which the study was implemented in 2016, and the corresponding ten weeks of the previous year, 2015. As some products were not labelled until the fifth week, the analysis was limited to weeks 5 to 10 (for both years). This allowed to examine the effects of labelling after the initial curiosity and the trial phase. Food quality was assessed with the UK FSA score and changes in the nutritional content of the food were assessed according to purchases.

In [table 1](#), for each product category, the average UK FSA score and the standard deviation (SD) were calculated (Dubois, et al., 2020).

**Table 1** Descriptive statistics: Average FSA score (labeled products)

	All		Fresh prep. foods		Pastries		Breads		Canned prep. foods	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
All stores										
Year: 2015	5.61	7.31	6.22	7.31	14.29	3.13	.21	1.89	-.12	3.36
Year: 2016	5.63	7.23	5.93	7.14	14.43	3.08	.33	1.63	-.09	3.39
Control stores										
Year: 2015	5.71	7.34	6.16	7.33	14.22	3.10	.22	1.89	-.19	3.29
Year: 2016	5.75	7.25	5.95	7.16	14.40	3.06	.36	1.60	-.04	3.41
Nutri-Couleurs stores										
Year: 2015	5.53	7.23	6.24	7.22	14.14	3.26	.31	1.94	-.11	3.40
Year: 2016	5.50	7.16	5.86	7.08	14.35	3.02	.39	1.55	-.09	3.40
Nutri-Repère stores										
Year: 2015	5.61	7.30	6.29	7.27	14.32	3.11	.18	2.09	-.01	3.63
Year: 2016	5.63	7.23	6.09	7.16	14.46	3.06	.32	1.72	-.11	3.47
SENS stores										
Year: 2015	5.41	7.30	6.10	7.29	14.45	3.10	.15	1.86	-.07	3.40
Year: 2016	5.51	7.26	5.93	7.15	14.55	3.04	.28	1.65	-.12	3.40
Nutri-Score stores										
Year: 2015	5.65	7.35	6.36	7.37	14.39	3.11	.19	1.70	-.13	3.20
Year: 2016	5.59	7.22	5.79	7.06	14.44	3.15	.32	1.63	-.13	3.32
Weight (grams)	395	167	311	108	449	136	457	149	554	259
Energy (kcal)	1060	436	955	440	1550	180	1148	95	460	144
N (labeled products)	1,068,857		518,087		194,662		250,023		104,755	
N (unlabeled products)	599,444		276,119		99,457		117,030		106,838	

Note: Decreasing FSA scores indicate an improvement in nutritional quality

Table 1 from Dubois et al, 2020

The FSA scores displayed in [table 1](#) reveal the distribution of the products with regard to the FSA scale for each category. The higher the standard deviation, the wider the distribution of products of one category along the scale. It results in a wide range of scores (especially for Nutri-Score). This is the case, for example, for the “fresh prepared foods” category which has a standard deviation of 7.06 in 2016 for Nutri-Score scores, when “canned prepared foods” and “pastries” have standard deviations of 3.32 and 3.15 respectively, and 1.63 for “breads”.

According to these observations, we can deduce that the distribution in terms of Nutri-Score in our opinion should be more balanced for “fresh prepared foods” and we can assume that it will make the Nutri-Score more impactful and facilitate the choice of consumers towards healthier diets, allowing a more efficient comparison between products within this category.

In addition, the authors divided products in three nutrition tiers (high, medium and low nutritional quality) to assess the performance of each system with regard to purchases.

[Table 2](#) confirms that Nutri-Score is particularly impactful for “fresh prepared foods,” the one food category in which **the products were well-distributed based on the FSA score** <sup>34</sup> **which is determined by nutritional food composition** . In fact, consumers are shown to be nudged toward purchasing products of a higher nutritional quality. This effect has been statistically confirmed and is significant ( $p < 0.01$  when when” statistically significant” is considered to be below 0,05).

**Table 2** Impact of nutrition labels on purchase incidence

	All products			Fresh prepared foods			Pastries			Breads			Canned prep. foods		
	Est.	S.E.	t	Est.	S.E.	t	Est.	S.E.	t	Est.	S.E.	t	Est.	S.E.	t
Nutri-Score x T1 (H)	.021 <sup>***</sup>	.005	4.58	<b>.044<sup>***</sup></b>	.015	2.96	.018 <sup>*</sup>	.010	1.89	.014	.018	.76	.010	.007	1.36
Nutri-Score x T2 (M)	-.005	.008	-.65	.007	.012	.56	-.004	.016	-.28	-.029	.017	-1.70	.006	.006	.95
Nutri-Score x T3 (L)	-.007	.013	-.58	-.027	.039	-.69	-.001	.017	-.05	.000	.017	.02	-.003	.006	-.44
Nutri-Score x No label	-.002	.026	-.07	-.018	.063	-.28	-.010	.050	-.21	.033	.022	1.53	-.011	.018	-.59

Note: <sup>\*\*\*</sup>  $p < .01$ , <sup>\*\*</sup>  $p < .05$ , <sup>\*</sup>  $p < .10$ . An intercept, fixed effects for nutrition tercile 2, nutrition tercile 3 and unlabeled products, and changes in the number of purchases in the category and in average basket prices were also included in the regressions but are not shown here

Table 2 from Dubois & al, 2020

In this context, besides the fact that Nutri-Score was proven to be the most effective system to help consumers make better choices in terms of the nutritional content of the products, [this study](#) <sup>35</sup> demonstrates that a balanced distribution of products within the same category increases significantly the impact of Nutri-Score.

**Summary:**

- ⇒ Studies show that when consumers have a **wide choice of products with a Nutri-Score ranking distribution** within one food category that reflects more accurately the nutritional content of each product, **Nutri-Score is more impactful by nudging consumers toward healthier choices.**
- ⇒ On the contrary, **if most of the products are rated under one or two classifications, Nutri-Score logically does not help consumers choose products with a better nutritional composition**, especially when significant nutritional differences exist between products with the same Nutri-Score ranking.

<sup>34</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/216094/dh\\_123492.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/216094/dh_123492.pdf)

<sup>35</sup> <https://link.springer.com/article/10.1007/s11747-020-00723-5>

### 3. Optimal conditions to encourage reformulation by manufacturers

#### 3.1. Nutritional improvements and commitments

Alongside the definition of optimal conditions to stimulate consumer choice towards healthier choices, another key factor from a public health point of view to optimize the performance and impact of FOPNL is how the FOPNL incentivizes manufacturers to reformulate their products.

Worth noting that, long before the introduction of FOPNL, manufacturers had already taken actions to improve the nutritional content of their products. In France, for example, before the introduction of Nutri-Score, [charters of commitments to nutritional progress](#) were signed by various major manufacturers (“PNNS charters”)<sup>36</sup>, with major food and beverage companies among the 36 manufacturers who signed the commitments.

In the European Union, UNESDA remains the only sector to have formally committed to the 2015 European Commission call upon the food industry to reduce added sugars. UNESDA pledged to reduce average calories in soft drinks by 10% between 2015-2020. Through intense voluntary efforts, [UNESDA members met the 2020 target](#) ahead of time achieving a 14.6% reduction by 2019 (UNESDA, 2020)<sup>37</sup>. Overall, between 2000 and 2019, the European soft drinks industry reduced added sugars and calories in its drinks by an average of 26%. This demonstrates the willingness of the sector to make significant and disruptive efforts to reduce sugar and calories in its products.

**These achievements in terms of sugar and calorie reduction demonstrate how the soft drinks companies for years have included nutritional optimization as their long-term strategy and much has already been achieved.**

Some reformulation initiatives based on Nutri-Score have been launched for foods. For example, Nestlé announced that 16% of their breakfast cereals sold in France were Nutri-Score A or B in 2019, and they committed to reach 50% by end of 2021. Another example is Fleury Michon, one of the market leaders in the French processed meat and prepared foods categories, who committed to accelerate reformulation with a clear objective to reach on the frequency of products with Nutri-Score A or B rankings.

To encourage this positive dynamic across more food and beverage categories, FOPNL should provide food manufacturers with a way in which improvements can be communicated to consumers. This is currently not always possible, especially for non-alcoholic beverages.

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<sup>36</sup><https://solidarites-sante.gouv.fr/prevention-en-sante/preserver-sa-sante/le-programme-national-nutrition-sante/article/les-chartes-d-engagements-volontaires-de-progres-nutritionnel>

<sup>37</sup> <https://www.unesda.eu/sugar-reduction/>

### **3.2. The positive impact of FOPNL on reformulation**

Among the few studies that have investigated the link between FOPNL and reformulation, [a study](#) by Vermote et al, 2020<sup>38</sup>, looked at cereal reformulation in anticipation of the implementation of Nutri-Score in Belgium. It showed that “*reformulation of breakfast cereals was found between 2017 and 2018, with reductions in total sugars (-5%) ( $p < 0.001$ ) and sodium (-20%) ( $p = 0.002$ ) and increases in fibre (+3%) ( $p = 0.012$ ) and proteins (+2%) ( $p = 0.002$ )*” (Vermote, Bonnewyn, Matthys, & Vandevijere, 2020).

[This study](#) clearly shows that manufacturers have the potential motivation to reformulate their products in order to improve their nutritional content and therefore reach better FOPNL rankings.

**One of the key criteria to encourage producers to reformulate is the potential to achieve a ‘better’ FOPNL ranking. If a positive effect in terms of ranking is impossible to reach, it is likely to significantly lower the chances of commercial viability for manufacturers to invest in optimizing the nutritional profile of their products.**

[Another study](#) by Vyth et al., 2010<sup>39</sup>, looked into the products that were reformulated after implementation of the ‘Healthy Choice’ logo. The category that was mostly reformulated was “soups” (n=68) primarily targeting one nutrient: sodium). [Table 3](#). The hypothesis is that soups that were reformulated were close to the cut-off so they could obtain the Healthy Choice logo, making the reformulation effort possible and worthwhile. By extension, it can be assumed that prioritization is made by producers to first reformulate products that are close to cut-offs so that producers’ efforts are more feasible whilst at the same time increasing the chances of consumer acceptance from a taste perspective (Vyth, Steenhuis, Roodenburg, Brug, & Seidell, 2010).

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<sup>38</sup> <https://www.mdpi.com/2072-6643/12/4/884>

<sup>39</sup> <https://pubmed.ncbi.nlm.nih.gov/20825645/>

**Table 1 Mean (SD) nutrient content of reformulated products (Reform) and the pre-reformulation products (Previous) per product group<sup>1</sup>**

Product Category	SAFA <sup>a</sup> Previous (g/100g)	SAFA <sup>a</sup> Reform (g/100g)	TFA <sup>b</sup> Previous (g/100g)	TFA <sup>b</sup> Reform (g/100g)	Added Sugar Previous (g/100g)	Added Sugar Reform (g/100g)	Sodium Previous (mg/100g)	Sodium Reform (mg/100g)	Fiber Previous (g/100g)	Fiber Reform (g/100g)	Energy Previous (kcal/100g)	Energy Reform (kcal/100g)
Fruit juices (n = 6)	-	-	-	-	-	-	1.67 (0.52)	1.67 (0.52)	0.15 (0.12)	0.23* (0.18)	40.50 (3.62)	38.83 (5.49)
Processed meats (n = 11)	3.09 (2.46)	1.75* (0.71)	0.081 (0.163)	0.022 (0.031)	1.69 (0.95)	1.00 (0.82)	1017.82 (175.74)	834.55** (56.63)	0.07 (0.13)	0.14 (0.19)	242.82 (210.81)	237.73 (216.64)
Dairy products (n = 10)	1.26 (0.52)	0.88* (0.27)	-	-	5.74 (5.49)	1.46* (2.35)	50.30 (15.94)	52.80 (14.76)	-	0.18 (0.57)	57.10 (17.12)	51.20* (10.77)
Sandwiches (n = 16)	1.87 (1.76)	1.26 (0.86)	0.111 (0.207)	0.044 (0.053)	0.29 (0.68)	0.33 (0.82)	470.99 (295.55)	273.02* (96.34)	2.40 (1.04)	3.64** (0.86)	198.71 (61.44)	179.18 (28.76)
Soups (n = 68)	0.58 (0.48)	0.58 (0.48)	0.016 (0.019)	0.016 (0.019)	0.69 (0.71)	0.69 (0.71)	372.42 (47.91)	322.01** (32.11)	0.30 (0.44)	0.30 (0.44)	41.02 (18.46)	41.02 (18.46)
Sauces emulsions (n = 10)	2.54 (1.29)	2.77 (1.46)	0.253 (0.281)	0.168 (0.095)	6.12 (1.84)	5.31* (1.70)	0.71 (0.08)	0.69 (0.07)	1.51 (2.41)	1.51 (2.41)	220.00 (77.60)	215.00 (75.61)
Sandwich fillings (n = 8)	2.50 (0.53)	1.59** (0.73)	0.025 (0.004)	0.015** (0.005)	5.69 (2.01)	6.06 (2.21)	668.50 (311.29)	406.50* (117.84)	1.05 (0.46)	0.92 (0.62)	293.63 (53.36)	206.75** (49.86)

<sup>1</sup> Paired sample t-tests were used to explore differences in product composition per product group before and after reformulation.

<sup>a</sup> SAFA: saturated fatty acids <sup>b</sup> TFA: trans fatty acids \*p< 0.05 \*\* p< 0.01

Table 3 from Vyth & al. 2010

In a study by Ni Mhurchu et al in 2017<sup>40</sup>, authors compared the nutritional composition of Health Star Rating labelled products in New Zealand in 2014 (before affixing the Health Star Rating) and the nutritional composition of the same products in 2016 (after the implementation of Health Star Rating). Between 2014 and 2016, some manufacturers implemented the Health Star Rating label on their products and reformulated some of their product to improve their rankings (Ni Mhurchu, Eyles, & Choi, 2017).

When studying the nutritional composition of products with the Health Star Rating Label in 2016, products were found to be higher in energy and protein, but lower in saturated fat, total sugars, and sodium when compared to the same products in 2014. The authors noted that differences between 2014 and 2016 might have resulted from both the selective application of the Health Star Rating scheme on healthier products and the reformulation by some manufacturers (Ni Mhurchu, Eyles, & Choi, 2017). This study shows that a FOPL with cut-offs that are not optimized to the product category risks to incentivize only the manufacturers that will have well-ranked products to use the FOPNL or maybe manufacturers that can reach a higher score without much effort in improving the recipe from a nutritional perspective. If changes of rankings are impossible to reach for manufacturers, it might restrain their motivation to reformulate their products.

It is noteworthy that WHO Europe, in their paper published in November 2020 confirmed the positive role of FOPNL on reformulation. In this paper, outlining ‘Policy opportunities and

<sup>40</sup> <https://www.mdpi.com/2072-6643/9/8/918>



challenges for the WHO European Region in reducing salt and sugar in the diet’<sup>41</sup> WHO Europe stated that “FOP nutrition labelling can be a useful lever to encourage reformulation” and that “Interpretive FOP labelling that provides evaluative judgement about the nutritional quality of pre-packed foods can encourage improvements in food purchase and dietary intake, and may also incentivize the food industry to reformulate products in order to achieve a favourable FOP label”.

#### Summary:

- ⇒ **By defining cut-offs that are optimized to improve consumer understanding and to incentivize manufacturer reformulation, the dual public health objective of FOPNL is more likely to be reached.**
- ⇒ **Presenting consumers with a wider distribution of rankings for a specific category and more products labelled with FOPNL supports their decision-making.**

### 3.3. The challenge of consumer acceptance for reformulation

Reformulation is one of many different levers that, when applied collectively, can bring changes in consumer dietary patterns. Such levers can also include consumer education and other actions by industry, such as offering smaller pack sizes to enable portion control and promoting low/no sugar choices.

[The Dutch EU Presidency Reformulation Roadmap](#) (published in 2016)<sup>42</sup> identified essential considerations for optimizing reformulation from the point of view of both consumer acceptance and product safety:

- The need for gradual reduction is essential: *“That gradual reduction of salt, saturated fats and added sugars in foods is needed to maintain consumer acceptance of improved products.”*
- Technological barriers and product integrity assurance are also challenges that need to be carefully considered: *“...technological possibilities, food safety and sustainability goals can influence the possible results of food product improvement.”*
- Reformulation should also take into account cultural differences: *“That there are cultural differences in taste and eating behaviour, which partly determine the approach, the pace of reduction of salt, saturated fat and added sugars, and the final results. Every approach should respect cultural differences in diets.”* (Dutch EU presidency team, 2016).

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<sup>41</sup><https://www.euro.who.int/en/health-topics/disease-prevention/nutrition/publications/improving-dietary-intake-and-achieving-food-product-improvement-policy-opportunities-and-challenges-for-the-who-european-region-in-reducing-salt-and-sugar-in-the-diet-2020>

<sup>42</sup>[https://ec.europa.eu/health/sites/health/files/nutrition\\_physical\\_activity/docs/2016eunlpresidency\\_roadmap\\_en.pdf](https://ec.europa.eu/health/sites/health/files/nutrition_physical_activity/docs/2016eunlpresidency_roadmap_en.pdf)

### Main conclusion of Part A:

This literature review studied the key requirements for reaching the dual public health objective as defined by Professor Hercberg in his [2014 report](#)<sup>43</sup> introducing the importance of FOPNL in the French national nutrition policy. This review relied on key findings from scientific studies, meta-analyses and reviews regarding FOPNL and Nutri-Score.

The following actions were identified as essential to support the dual public health objectives:

1. **Objective #1: Inform consumers**, at the time of purchase, about the overall nutritional content of food, enabling them to make informed choices.
  - ⇒ **By adjusting FOPNL to reach consistency between FOPNL ranking and potential nutritional and health claims** on the packaging
  - ⇒ **By designing FOPNL that offers consumers a balanced distribution within one food category** to help them clearly identify healthier and less healthier options.
  
2. **Objective #2: Encourage manufacturers to improve the nutritional content of the food they produce** and offer them the opportunity through the nutritional labelling system to reward their reformulation efforts.
  - ⇒ **By adapting FOPNL and cut-offs to make reformulation accessible** and better encourage manufacturers to reformulate their products.

It can be noted that the requirements identified in Part A are general and can be applied to all food categories, not only to soft drinks.

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<sup>43</sup><https://solidarites-sante.gouv.fr/ministere/documentation-et-publications-officielles/rapports/sante/article/propositions-pour-un-nouvel-elan-de-la-politique-nutritionnelle-de-sante>



## **PART B - WHY THE CURRENT NUTRI-SCORE RANKING SYSTEM NEEDS TO BE OPTIMIZED FOR SOFT DRINKS IN ORDER TO SUPPORT PUBLIC HEALTH OBJECTIVES, AND SUGGESTIONS FOR POSSIBLE ALTERNATIVE APPROACHES**

After a thorough review of the scientific literature on the key challenges of FOPNL for meeting public health objectives, the second part of this report consists of an analysis of how the Nutri-Score algorithm for beverages impacts soft drinks. It is to be noted that the Nutri-Score algorithm for beverages is different to the algorithm for all other foodstuffs.

The aim is to further examine the Nutri-Score rankings of soft drinks and to analyse how the category is positioned within the Nutri-Score system, through the lens of the main challenges identified in Part A.

Toward the end of Part B, we evaluate the performance of three alternative approaches for Nutri-Score scorings for soft drinks, in order to share concrete proposals for consideration aimed at identifying an optimum approach to meet public health objectives as set out in Part A.

### **1. Why the current Nutri-Score system needs to be optimized further for soft drinks**

As has been mentioned in Part A of this report, FOPNL should pursue two main objectives: (Hercberg, 2014)

1. **Inform consumers**, at the time of purchase, about the overall nutritional content of the food, enabling them to make informed choices.
2. **Encourage manufacturers to improve the nutritional content of the food they produce** and offer them the opportunity through the nutritional labelling system to value their efforts in terms of reformulation/innovation.

#### **1.1. Consistency between claims, Nutri-Score ranking and consumer understanding**

This section summarizes the main challenges faced by the soft drinks category as a result of the current Nutri-Score algorithm in line with the three main challenges identified in Part A: consistency between nutrition claims and Nutri-Score, distribution, and incentive for manufacturers to reformulate.

Depending on their composition and according to the EU Nutrition and Health Claims [Regulation 1924/2006](#)<sup>44</sup>, soft drinks can bear nutrition claims on energy and sugars such as: “energy free”, “low energy”, “sugar-free”, “low sugars”, “reduced sugar”. These claims are

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<sup>44</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32006R1924&from=FR>

useful to inform consumers and to help them make more informed choices (European Parliament, Council of the European Union, 2006).

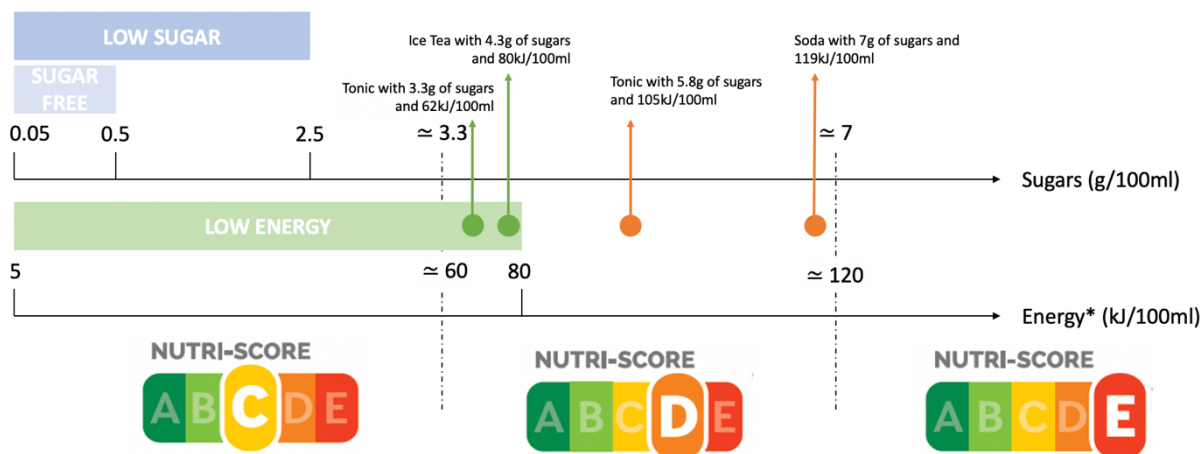
It would be expected that the Nutri-Score ranking should align with the conditions for nutrition claims set out in the EU Nutrition and Health Claims Regulation to provide coherent information and avoid potential confusion.

As mentioned in Part A, this requirement is also pointed out by the WHO among its [“Guiding principles and framework manual for front-of-pack labelling for promoting healthy diet”](#) report ([Appendix 1](#)) (World Health Organization, 2019)<sup>45</sup>.

Principle 1 states that *“the FOPL system should be aligned with national public health and nutrition policies and food regulations as well as with relevant WHO guidance and Code guidelines.”*

However, some soft drinks eligible for a “low energy” claim (meaning that the drink should not contain more than 20 kcal (80 kJ)/100 ml for liquids) are classified in the low-ranking D class of Nutri-Score which clearly creates the potential for consumer confusion. Figure 2 shows this potential mismatch between some “low energy” drinks and other drinks with more than 5g of sugars/100ml which all are in the same class.

*= Specific examples: Three different peach-flavour ice tea soft drinks currently on the market are all eligible for this “low energy” claim with respectively 20 kcal, 19kcal and 20 kcal per 100ml. However, they are all in the D class of Nutri-Score, alongside products they are not eligible for this claim.*



\*Energy calculation : we consider that energy is only provided by sugars and organic acids (0.3g/100ml)

Figure 2 : Mismatch between Nutri-Score and [Regulation 1924/2006](#) & sugars content variation within the D class

<sup>45</sup><https://www.who.int/nutrition/publications/policies/guidingprinciples-labelling-promoting-healthydiet.pdf?ua=1>

As introduced in Part A of this report, these examples illustrate the potential mismatch between nutritional claims and Nutri-Score that could create cognitive dissonance to consumers, and which consequently may not be in alignment with Article 7 of the Food Information to Consumers [Regulation 1169/2011](#)<sup>46</sup> related to ‘Fair information practices’ (European Parliament, Council of the European Union, 2011).

## **1.2 Balanced Distribution within the same category**

As shown in Part A of the report, a balanced distribution of products in the same category is needed to maximize the impact of the Nutri-Score.

In 2020, [Dréano-Trécant, et al.](#)<sup>47</sup> mentioned that a balanced distribution for a category can be considered when at least three classes are available in the food group.

*“discriminating performance was considered satisfying when at least three classes of Nutri-Score were available in the food group” (Dréano-Trécant, et al., 2020)*

However, the soft drinks category does not have a balanced distribution of Nutri-Score rankings, despite significant differences in sugar content among products. The reason is that, **once a soft drink exceeds 0 grams of sugar, it is immediately placed in the C class or below, even when it** contains only 0.1 grams of sugar per 100ml.

In Spain, for example, there is one product that can claim sugar-free but which is still ranked in the C class with 0,1g of sugar/100ml (cf [section 3.3.1 from part B](#)). The differences in sugar content can be significant and this is not communicated appropriately to the consumer who sees the exact same Nutri-Score ranking for both products.

In France, for example, on a representative database gathering the top-selling 48 drinks representing 77% of the market share, **81% of drinks are ranked D or E, with 52% ranked E** (cf [section 3.1.1 from Part B](#)).

In other words, **no soft drink in the database containing sugars is eligible for the B class, regardless of the quantity of sugar, even if 0.1 gram of sugar**, which explains the condensed distribution in the C, D and E classes.

Furthermore, the [WHO Principle](#) 10 states that *“the FOPL system should enable appropriate comparisons between food categories, within a food category, and between foods within a specific food type.” (World Health Organization, 2019)*<sup>48</sup>

Nutri-Score should help consumers clearly identify products with a higher nutritional value. For soft drinks, the Nutri-Score algorithm should allow consumer to successfully rank drinks according to their sugar and energy content. However, the D class is quite dense in terms of references, encompassing drinks with very diverse levels of sugars (cf figure 2 above).

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<sup>46</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32011R1169&from=FR>

<sup>47</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7284849/>

<sup>48</sup> <https://www.who.int/nutrition/publications/policies/guidingprinciples-labelling-promoting-healthydiet.pdf?ua=1>

= For example, on the French market, the D class gathers drinks such as a fruit flavour drink with 3,3g/100ml of sugar, a peach flavoured ice tea with 4,3g/100ml of sugars, but also an orange fruit drink with 6,5g/100ml of sugars or a cola drink, with a 2020 reformulation, containing 7g/100ml of sugars. The difference in terms of sugar content for drinks in the D class can be up to 3,7g/100ml of sugars which does not help consumers to rank drinks according to their sugar content.

The Nutri-Score algorithm could be optimized to improve the distribution of soft drinks on the Nutri-Score scale and reflect differences in their sugar content more accurately, especially to improve how soft drinks are distributed between the B and C classes. A balanced distribution as [described in Dréano-Trécant, et al.](#) would nudge consumers towards healthier products. (Dréano-Trécant, et al., 2020)<sup>49</sup>

### **1.3. Incentivize beverage reformulation and innovation**

From a public health perspective, reformulation and innovation are the opportunity to optimize the nutritional composition of products. For soft drinks, reducing calories and sugars are generally the main targets when it comes to reformulation.

Consumer acceptance is a critical success factor for any reformulation and may explain differences in product composition across Europe as consumer taste profiles and preferences differ in each country. A gradual reduction in the content of sugars is necessary to enable the consumer to get used to the taste of a reformulated soft drinks. A drastic reduction could result in rejection and a switch to other drinks with a higher content of sugars.

Furthermore, when it comes to innovation of new drinks and reformulation of existing drinks, soft drinks companies are frequently reliant on making use of the harmonised system of nutrition claims as set out by [the EU Nutrition and Health Claims Regulation](#)<sup>50</sup>. Indeed, [66% of new drinks introductions on the market are no- and reduced sugar](#) and on average 30% of sales in the EU are no or low sugars/calorie drinks (UNESDA, 2020)<sup>51</sup>.

Until now, nutrition claims have widely been used as a positive target to communicate on reformulation and innovation. Nutri-Score should also stimulate efforts in terms of reformulation and innovation and enable positive communication towards consumers. However, a 40% sugar reduction of a Nutri-Score D drink such as an orange fruit drink, for example, on the French market, will allow a reduction of sugars from 6,5g/100ml to 3,9g/100ml, but **its Nutri-Score ranking will remain unchanged with the drink still ranked in the D class, despite almost halving its sugar level.** Furthermore, the 40% reformulation also allows the product to be eligible for a “low in energy” claim, demonstrating that Nutri-Score is not in line with the [European Nutrition and Health Claims Regulation](#).

The Nutri-Score algorithm and thresholds for beverages should be clearly studied and optimized to better incentivize companies, such as soft drink producers, to reformulate their

<sup>49</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7284849/>

<sup>50</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02006R1924-20141213>

<sup>51</sup> <https://www.unesda.eu/sugar-reduction/>

drinks while promoting a balanced distribution and maintaining consistency with nutrition claims.

The aim of the following sections is to study more specifically the Nutri-Score algorithm performance in three countries on the three key arguments developed in the previous parts. To do so, representative databases have been constituted.

To build a complete overview, the performance of alternative approaches for the algorithm will then be studied to bring concrete examples to the table for optimizing the ranking system.

Key points:

- ⇒ Significant mismatches between nutrition claims and Nutri-Score can be observed for soft drinks. This has the potential to create consumer confusion due to contradictory messages front of pack and to prevent consumers from making informed choices.
- ⇒ Soft drinks are constrained mainly to the C, D and E Nutri-Score classes as the A class is only for waters and the **B class excludes soft drinks with ANY sugar content over 0g**. This means that two soft drinks with significant differences in sugar content (even if one has only 0.1 grams of sugar/100ml) are given the same C ranking, not giving consumers the ability to choose the lower sugar option. In France, for example, most drinks are ranked in the D or E class, thereby negating the ability of Nutri-Score to identify to the consumer differences between products according to their nutritional content.
- ⇒ For many years, soft drinks companies have included nutritional optimization in their reformulation plans. However, the **current Nutri-Score algorithm does not enable them to communicate to consumers which existing soft drinks have lower sugar and they do not have an incentive to continue to reformulate or to innovate with new low-sugar soft drinks. The Nutri-Score thresholds should reflect the nutritional content of soft drinks more accurately.**

## 2. Methodology: constitution of representative databases

The soft drinks on the market in each European country vary due to a complex web of many factors such as local consumer tastes, preferences, cultural diversity, market conditions etc. To analyse the situation and be as precise as possible, specific representative databases of soft drinks on the market have been constituted for Belgium, France and Spain, being three key markets for Nutri-Score.

In order to constitute databases that are representative of the market they were constituted according to market share.

An extraction from the independent market analysts, GlobalData, provided a comprehensive list of drinks for each market to reach at least 75% of market share for each country.

Categories included in the selections are, according to GlobalData denominations: Carbonates, Energy Drinks, Enhanced Water, Flavoured Water, Fruit Powders, Iced/Ready-to-Drink Coffee Drinks, Iced/Ready-to-Drink Tea Drinks, Sports Drinks, Squash/Syrups and Still Drinks. Neither “juices”, “nectars” nor “packaged water” were included in this extraction as the focus is on the soft drinks category represented by UNESDA.

The nutritional information was completed according to information provided by UNESDA members and completed with data found on public packaging and manufacturers’ websites when data were missing.

- France: 48 drinks representing 77% of the French soft drinks market. The list of the 48 drinks can be found in [Appendix 2](#).
- Belgium: 45 drinks representing 85% of the Belgian soft drinks market. The list of the 45 drinks can be found in [Appendix 3](#).
- Spain: 50 drinks representing 92% of the Spanish soft drinks market. The list of the 50 drinks can be found in [Appendix 4](#).

## 3. Analysis of the current Nutri-Score for beverages: Public health objectives required for a FOPNL are not completely met

The Nutri-Score algorithm is based on the combination of a negative and a positive scoring depending on the content in 100g/ml of product of energy (kJ), sugars (g), saturated fats (g) and salt (g) for the negative points and on protein (g), fibres (g), fruits and vegetables (%) for the positive points. For each nutrient, points are given depending on the content.

Different thresholds exist for beverages for content of sugars, energy, fruit and vegetables.

The categories within the scope of the algorithm for beverages in the existing Nutri-Score system are the following:

- Mineral waters and spring waters (score A - dark green colour);

- Flavoured waters (with and without added sugars). Beverages from this category cannot be classified with a Nutri-Score A, as per the official Scientific & Technical Nutri-Score Q&A;
- Fruit juices, nectar and smoothies;
- Vegetable juices;
- Beverages with added sugars and/or sweeteners;
- Teas, infusions or coffee reconstituted exclusively with water.

Milk, drinking yoghurts, flavoured or chocolate-flavoured milk drinks containing more than 80% milk, drinks reconstituted with a liquid other than water, soups and gazpachos, vegetable drinks are not considered as drinks for the calculation of Nutri-Score based on the algorithm for beverages.

#### Points distribution for beverages:

Points	Energy (kJ)	Sugars (g)	Saturated fat (g)	Sodium (mg)	Fruits, veg (%)	Fibre (g)	Protein (g)
0	≤ 0	≤ 0	≤ 1	≤ 90	≤ 40	≤ 0,7	≤ 1,6
1	≤ 30	≤ 1,5	> 1	> 90		> 0,7	> 1,6
2	≤ 60	≤ 3	> 2	> 180	> 40	> 1,4	> 3,2
3	≤ 90	≤ 4,5	> 3	> 270		> 2,1	> 4,8
4	≤ 120	≤ 6	> 4	> 360	> 60	> 2,8	> 6,4
5	≤ 150	≤ 7,5	> 5	> 450		> 3,5	> 8,0
6	≤ 180	≤ 9	> 6	> 540			
7	≤ 210	≤ 10,5	> 7	> 630			
8	≤ 240	≤ 12	> 8	> 720			
9	≤ 270	≤ 13,5	> 9	> 810			
10	> 270	> 13,5	> 10	> 900	> 80		

#### Score calculations:

energy points + sugars points + saturated fat points + sodium points  
 – fruits, vegetables points – fibre points – protein points

#### Results:

Nutri-Score rating	Points
<b>A</b>	<b>Water</b>
<b>B</b>	<b>Min to 1</b>
<b>C</b>	<b>2 to 5</b>
<b>D</b>	<b>6 to 9</b>
<b>E</b>	<b>10 to max</b>

Table 4 : Nutri-Score algorithm from CHAULIAC, 2020<sup>52</sup>

<sup>52</sup> [https://ec.europa.eu/food/sites/food/files/animals/docs/comm\\_ahac\\_20180423\\_pres4.pdf](https://ec.europa.eu/food/sites/food/files/animals/docs/comm_ahac_20180423_pres4.pdf)



The EU Nutrition and Health Claims Regulation ([No 1924/2006](#)) defined the following claims (European Parliament, Council of the European Union, 2006). Their definitions are available in [appendix 5](#).

- “Reduced sugars”
- “Low energy”
- “Low sugars”
- “Energy-free”
- “Sugars-free”

### 3.1 France

#### 3.1.1 Consistency between claims and Nutri-Score ranking

To analyse the consistency between EU nutrition claims and Nutri-Score ranking, a summary of all possible claims on energy and sugars are calculated according to energy and sugar content. These claims are then compiled and arranged in the following figure according to the Nutri-Score ranking of the beverage.

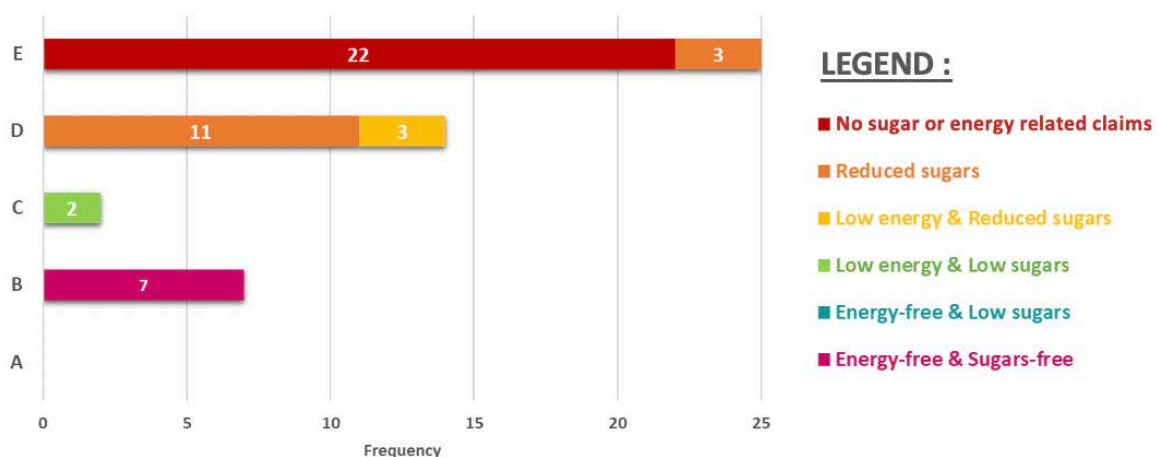


Figure 3 : Distribution according to the current Nutri-Score related nutrition claims in France

It can be noted on this graph that:

- Three drinks with the potential to make a “reduced sugars” claim are ranked E.
- The drinks with a “low energy” claim are ranked between D and C
- Drinks with both a “low energy” and a “reduced sugar” claim could be ranked D.

This clearly presents a challenge for consumer understanding and ability to make informed choices. **It can therefore be concluded that there is a mismatch between the European Regulation on Nutrition and Health Claims and Nutri-Score. These observations show a risk of potential confusion for consumers and an inability to make an informed choice as it is not clear which soft drinks contains less sugar.**



### 3.1.2 Balanced Distribution

As defined in [Dréano-Trécant & al., 2020](#), “Discriminating performance was considered satisfying when at least three classes of Nutri-Score were available in the food group. *NB The “balanced distribution” term later used in this report relies on this definition (Dréano-Trécant, et al., 2020)<sup>53</sup>.*

The following charts summarize how the 48 soft drinks included in the French database are positioned on the Nutri-Score scale with the detail of the FSA score to evaluate the distribution of soft drinks within a ranking.

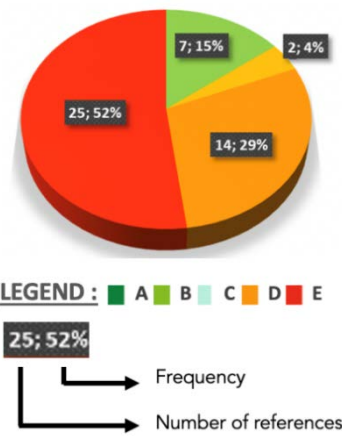


Figure 4 : Distribution according to the current Nutri-Score in France

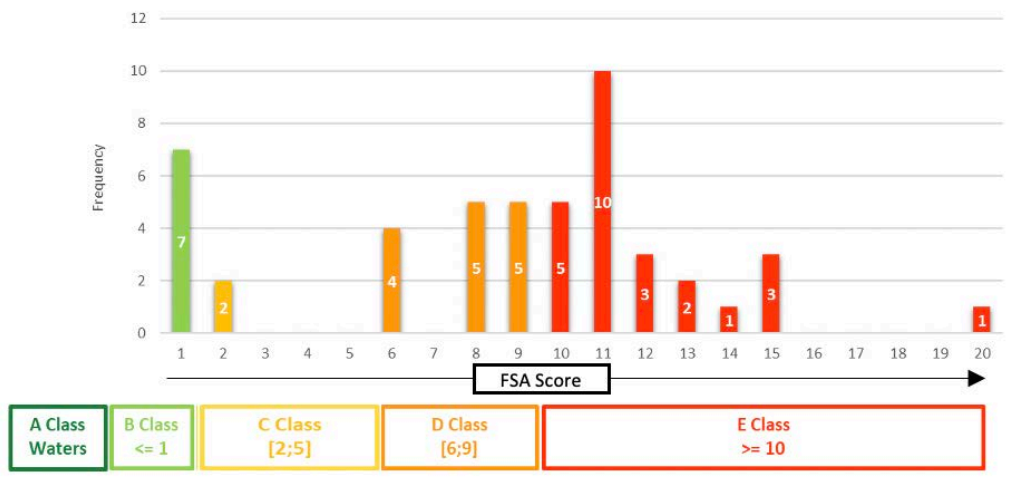


Figure 5 : Distribution according to the current Nutri-Score and the FSA score in France

<sup>53</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7284849/>

As we can observe on the graphs above, the uneven distribution is not helpful in conveying useful information to the consumer to guide their choice within the soft drink category:

- 81% of the drinks are D or E (with over 50% of the drinks in class E)
- Only two drinks are ranked C out of the 48 included in the database
- All the drinks ranked B are either soft drinks containing 0g/100ml of sugar or “flavoured waters” – **drinks with even minimum amounts of sugars are not allowed to receive a ‘B’ rating**
- No soft drinks are awarded with a Nutri-Score A rating as this is restricted to waters alone (not even flavoured waters that are exempted from the requirement of the mandatory nutrition declaration as per (EU) [Regulation N°1169/2011](#))<sup>54</sup>.

In section [4.2.2 from part B](#) of this report, we will present the opportunity to create an optimized situation for better distributing soft drinks between B, C, D and E categories to adequately reflect the nutritional content of soft drinks, and also to consider introducing some (very limited) A-rated drinks.

### **3.1.3 Incentivizing industry reformulation**

For soft drinks, Nutri-Score rankings depends almost exclusively on sugar content and energy, which is directly related as almost all energy in a soft drink is provided by sugars. Hence, sugar reduction reformulation is required to reach an improved Nutri-Score ranking.

To analyse the incentive potential of Nutri-Score for manufacturers to reach a higher Nutri-Score, the 48 drinks of the database were positioned on the following graph according to their sugar content and their Nutri-Score ranking. Illustrative Nutri-Score classes were indicated to show approximate sugar content allowing a change in terms of Nutri-Score ranking. As Nutri-Score ranking also depends on energy, there is not always one clear sugar content value to indicate a change of ranking.

A motivating situation for manufacturers would be a situation where substantial differences in terms of sugars content allow changes to the Nutri-Score ranking and a distribution of drinks with sugars content not too far from the sugars content needed to reach a higher ranking. Otherwise, if a totally unrealistic sugar reduction is needed to change Nutri-Score ranking, it will not incentivize producers to reformulate.

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<sup>54</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R1169&from=EN>

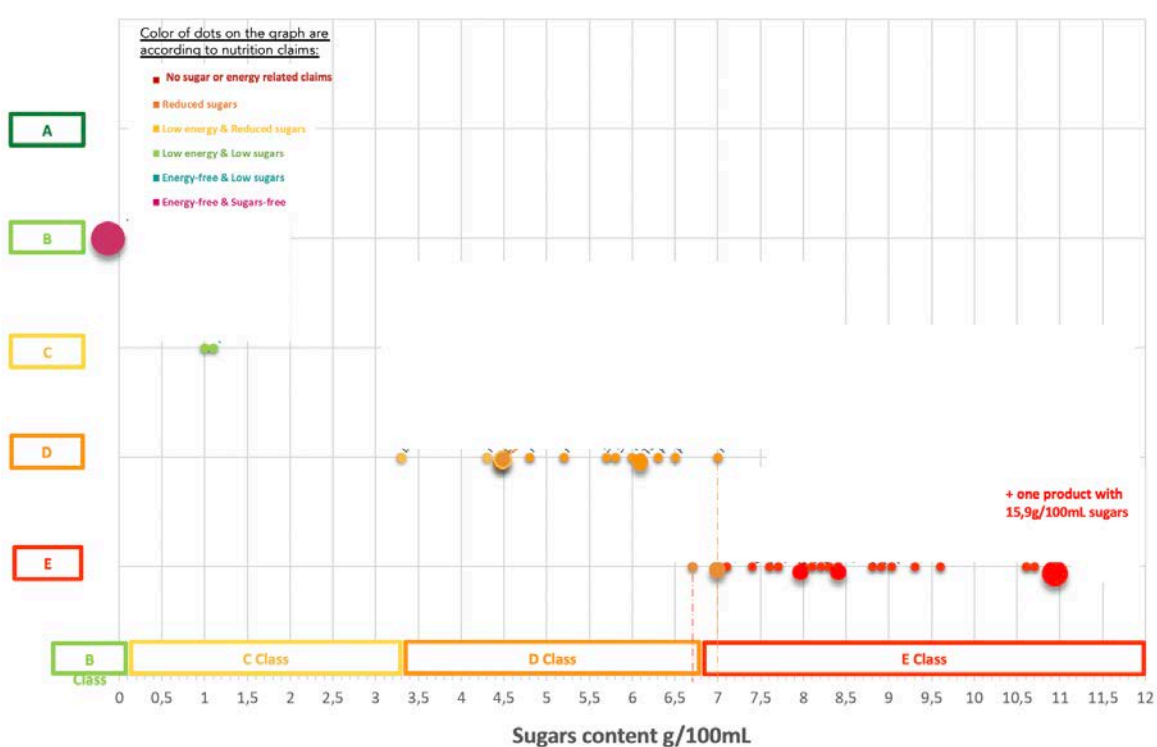


Figure 6 : Distribution according to the current Nutri-Score and the sugars content related nutrition claims in France

The graph illustrates that D class is quite dense in terms of numbers of products and that most drinks ranked D have a sugar content between 5,5g and 7g/100ml. However, the calculated theoretical threshold of sugar for a drink to switch from a D ranking to a C ranking is around 3,3g/100ml. A considerable decrease of sugars from 30% to 50% for products in the D class is needed to reach the C class. Such significant sugar reductions - which may not be feasible - do not incentivize manufacturers to reformulate.

*For example, a flavoured water is D with 3,3g of sugars per 100ml as a cola is also D with 7g of sugars per 100ml. Even by reducing the content of sugars by more than 50%, it might not be enough for this cola to reach C.*

**Moreover, the B class is inaccessible for all drinks containing even a very small content of sugars. Thus, there is no incentive to reformulate any soft drinks in the C class as only a complete removal of sugar from the beverage will allow it to achieve a B ranking.**

It can be assumed from these observations that a better distribution between classes B, C and D would encourage reformulation and ultimately help consumers make more informed choices.

### 3.2 Belgium

#### 3.2.1 Consistency between claims and Nutri-Score ranking

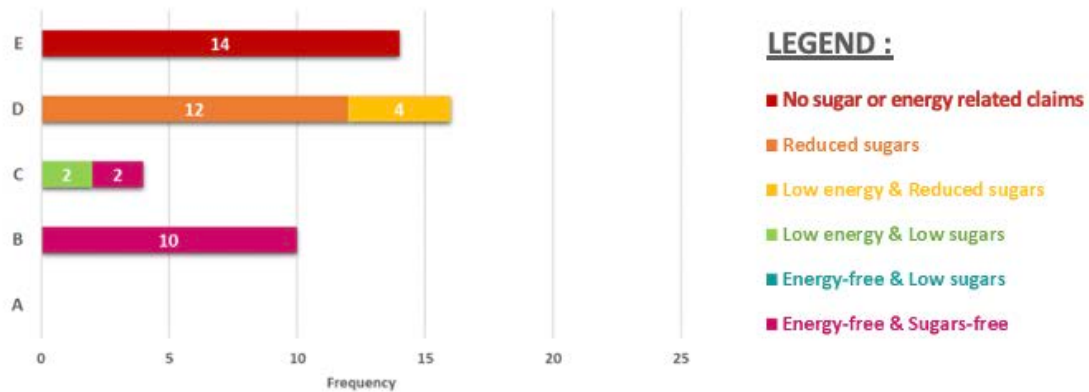


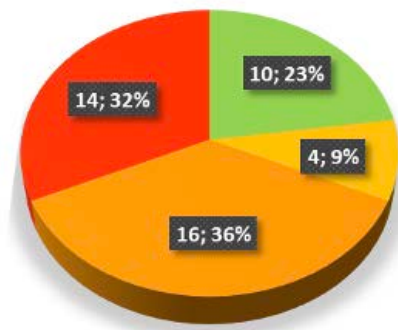
Figure 7 : Distribution according to the current Nutri-Score related nutrition claims in Belgium

It can be noted that:

- All drinks without claims are ranked E
- Drinks with both “low energy” and “reduced sugar” claims could be ranked D
- Two drinks with “low energy” and “low sugars” claims are ranked in the C class and could be ranked the same as drinks with “energy free” and “sugars free” claims.

These observations highlight that there is inconsistency between nutrition claims and Nutri-Score ranking which can generate consumer confusion about the sugar and calorie content of soft drinks and also impact a consumer’s ability to make an informed choice.

### 3.2.2 Distribution



**LEGEND :** A B C D E

25; 52%  
 Frequency  
 Number of references

Figure 8 : Distribution according to the current Nutri-Score in Belgium

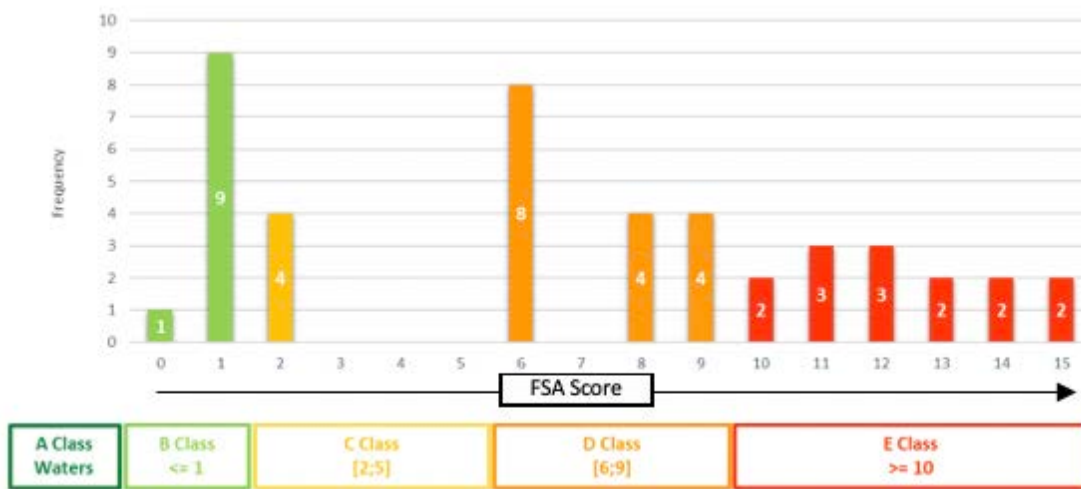


Figure 9 : Distribution according to the current Nutri-Score and the FSA score in Belgium

It can be observed in the graph above that B, D and E class are well represented with only a few drinks in the C class. According to [Dréano-Trécant & al., 2020](#) the distribution is likely to be deemed acceptable. (Dréano-Trécant, et al., 2020).

However, it can be noted on this graph that:

- More than 50% of the drinks are ranked D or E
- There is no Nutri-Score A as it is restricted only for waters
- Only four drinks are ranked C
- All the drinks ranked B are either soft drinks containing 0g/100ml of sugar or “flavoured waters”

An optimized situation introducing A drinks and better distributing soft drinks between B, C, D and E is recommended to better reflect the nutritional content of soft drinks and to allow consumers to make more informed choices.

### 3.2.3 Incentive for reformulation by manufacturers

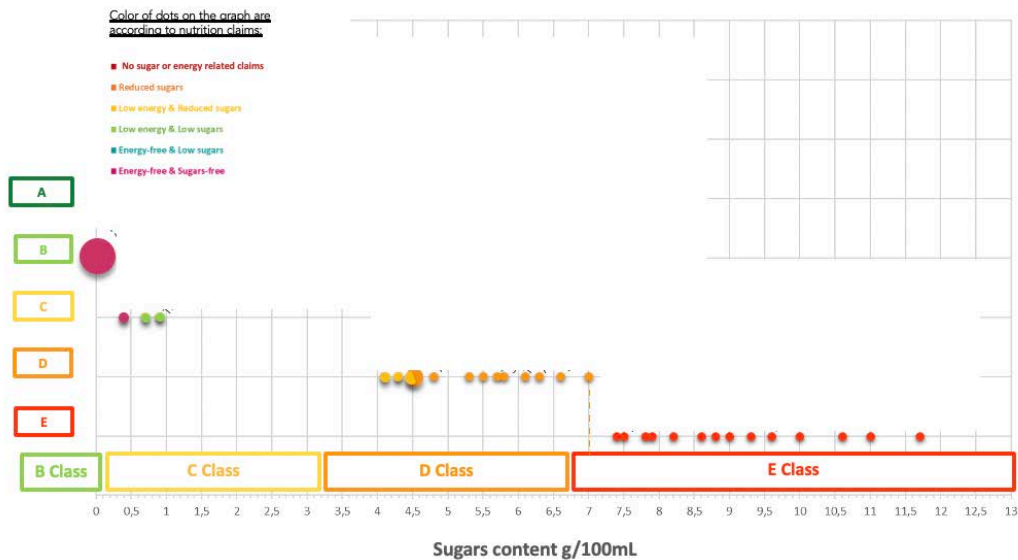


Figure 10 : Distribution according to the current Nutri-Score and the sugars content related nutrition claims in Belgium

The graph illustrates the fact that class B is a highly restrictive rating, accessible to drinks containing only zero grams of sugar. As a result of this threshold, soft drinks with C and D ranking start ranging from 0.1 grams of sugar/100ml, not giving consumers appropriate information to choose the product with lower sugar.

The D class contains many products, and its broad sugar threshold does not incentivize reformulation or the innovation of new low-sugar products to reach the C class.

The majority of drinks ranked D have a sugar content between 4,1g and 7g/100ml when the calculated theoretical threshold of sugar for a drink to switch from a D ranking to a C ranking is around 3,3g/100ml, which is not incentivizing manufacturers to reformulate. A sugar reduction of sometimes over 50% is needed to achieve a higher Nutri-Score rating.

An opportunity to reformulate from D to C might be seen for some products close to the threshold: seven drinks are between 4 and 4,5g/100ml of sugars, which is incentivizing to reach the C threshold (at around 3,3g/100ml). But it should be noted that most of these products are soft drinks with no added sugar that contain a small amount of juice which ultimately slightly increase the sugar content in the final beverage. These products can not be eligible for a B class unless all sugar sources (and then juice) are removed to achieve 0g/100ml of sugars.

Based on the observations above, it is assessed that an optimized algorithm or threshold would make reformulation more accessible for some drinks without penalizing others that are closer to thresholds.

### 3.3 Spain

#### 3.3.1 Consistency between claims and Nutri-Score ranking

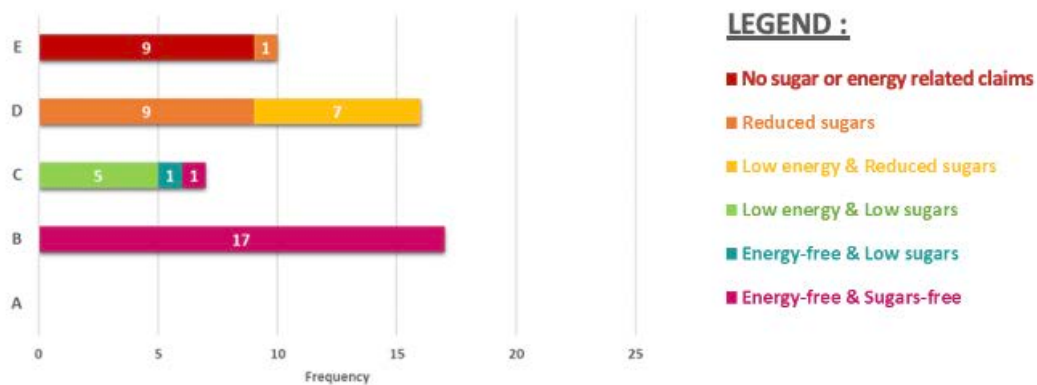


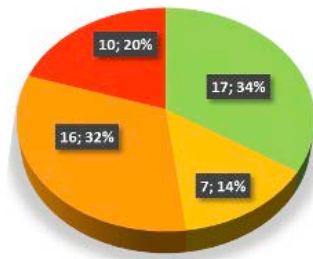
Figure 11 : Distribution according to the current Nutri-Score related nutrition claims in Spain

It can be noted that:

- One drink with “reduced sugars” claim could be ranked E.
- Drinks with both “low energy” and “reduced sugar” claims could be ranked D
- Five drinks with “low energy” and “low sugars” claims are ranked in the C class and could be ranked exactly the same as drinks with “energy free” and “sugars free” claims.

These observations highlight that there is inconsistency between nutrition claims and Nutri-Score ranking which can generate consumer confusion about the sugar and calorie content of soft drinks and also impact a consumer’s ability to make an informed choice.

### 3.3.2 Distribution



LEGEND : A B C D E



Figure 12 : Distribution according to the current Nutri-Score in Spain



Figure 13 : Distribution according to the current Nutri-Score and the FSA score in Spain

It can be observed on the graph above that B, C, D and E classes are well represented. According to [Dréano-Trécant & al., 2020](#) the distribution is likely deemed acceptable (Dréano-Trécant, et al., 2020).

However, it can be noted on this graph:

- More than 50% of the drinks are ranked D or E which could be improved with less drinks in D class and more in C class; and
- There is no Nutri-Score A as it is restricted only for 'plain' waters.



### 3.3.3 Incentive for reformulation by manufacturers

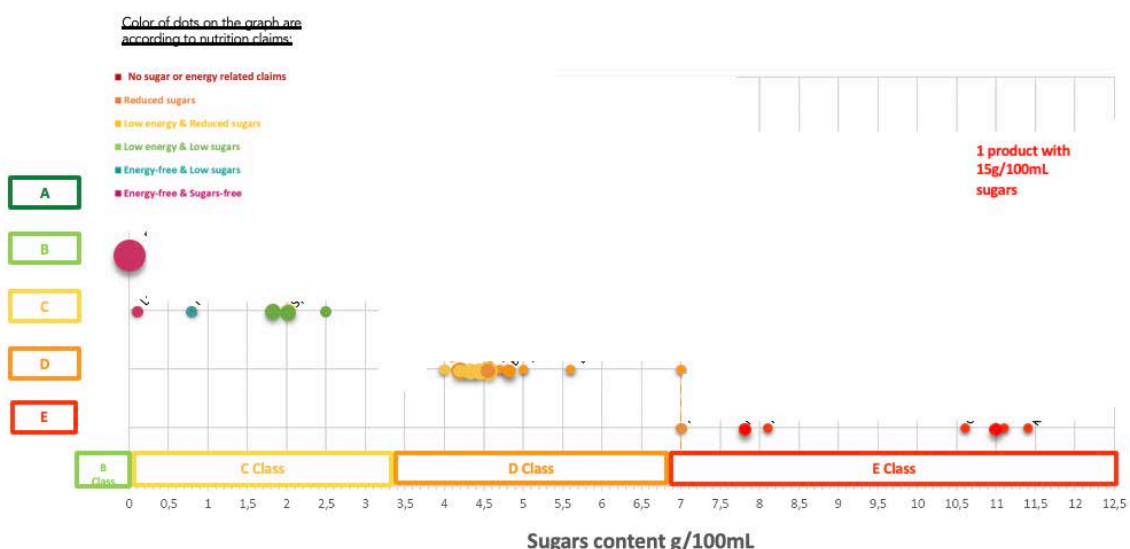


Figure 14 : Distribution according to the current Nutri-Score and the sugars content related nutrition claims in Spain

The Nutri-Score algorithm is reasonably adequate when it comes to incentivizing soft drinks manufacturers to reformulate. The C class which is not much represented can be reached by many drinks in the current D class that have a sugar content between 3,5 and 5g/100ml given the fact that the threshold to reach C class in terms of sugar is approximately 3,3g/100ml of sugar. A few drinks in the E class are also close to reaching the D class.

**However, products eligible for a Nutri-Score C class cannot be further reformulated to achieve the B class except if sugar from all sources is removed to achieve 0g/100ml of sugar.**

**As a general conclusion of this section,** the current Nutri-Score algorithm for beverages does not seem to be adapted to achieve the dual public health objectives stated in the previous sections for the soft drink category, i.e. to clearly inform consumers about nutritional content and to encourage reformulation.

The analysis of the current Nutri-Score algorithm on soft drinks in three representative EU Member States (France, Belgium, Spain) showed:

- **A frequent and significant mismatch between Nutri-Score and nutrition claims (on energy and sugar) in all markets.** For example, it is possible to find beverages with the "low energy" claim in D and C class and beverages with a nutrition claim in the E class. The presence of these contradictory message has the potential to confuse consumers as well as not providing coherent information for making an informed choice.
- Based on a thorough evaluation of beverage rankings in three representative EU Members States (above 75% of market share), it is observed that **the current Nutri-Score algorithm for soft drinks does not incentivize industry to reformulate and/or innovate with new low-sugar choices.** In particular, in France, more than 80% of

drinks are ranked D or E. Moreover, the integration of flavoured waters into A class could stimulate further innovation in this category.

- Given the fact that the A class is unreachable, and the **B class allows only beverages without any sugar, C and D classes are very broad in terms of sugar content** between the upper and lower thresholds. As a result, **consumers are not able to make informed choices about which product contains less sugar and there is little incentive for industry to reformulate** (sometimes up to 50% is required to change rankings).

## 4. Alternative approaches to meet Nutri-Score public health objectives

### 4.1 Three alternative approaches

The analysis of the current algorithm on beverages in key markets on representative databases proved not to set optimal conditions to efficiently **reach the dual public health objectives pursued by Nutri-Score to stimulate consumer choice towards soft drinks with a better nutritional content and to encourage reformulation by manufacturers.**

The study of soft drinks distribution on Nutri-Score ranking, the consistency of Nutri-Score and nutrition claims and the incentive to reformulation allowed to suggest that optimizations could be proposed on the current Nutri-Score to better meet these objectives.

To open the discussion, three alternative approaches are therefore proposed by UNESDA to optimize the current Nutri-Score algorithm. The following sections of the report will examine the performance of these alternative approaches and how they compare to the current algorithm, bearing in mind the observations provided in the previous sections of the report that need to be addressed to optimize the achievement of Nutri-Score objectives.

As dedicated versions of the algorithm exists for specific food groups with adapted thresholds, **these alternative approaches suggest the same kind of optimization and would only be applicable to soft drinks as relevance to other food groups were not studied in this report.**

- Approach 1 is directly based on [the EU Nutrition and Health Claims Regulation \(EC\) No 1924/2006](#)<sup>55</sup>. To simplify the approach and ensure alignment with the Regulation, the scoring system would no longer rely on the FSA scoring system but only rely on sugar content. Thresholds are defined according to the various thresholds for relevant nutrition claims (see table below) to optimise consumer understanding and ensure consistency between nutrition claims and Nutri-Score.
- Approaches 2 and 3 continue to be based on the FSA scoring system as is the current Nutri-Score system, but with slightly different Nutri-Score threshold adaptations. The

<sup>55</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02006R1924-20141213>

overall objective is for these two approaches to achieve closer alignment with the Claims Regulation (in line with the rationale for approach 1). It should be noted that it is not possible to achieve exact alignment with the Claims Regulation when using the FSA scoring system as the starting point.

For all three approaches, the A class would allow flavoured waters. Flavoured waters in this context are defined as drinks which do not contain added ingredients other than flavourings and therefore are exempted from the mandatory nutrition declaration ([Regulation No 1169/2011](#))<sup>56</sup>.

Table 5 below summarizes the 3 approaches.

NUTRI-SCORE® RATING	INITIAL NUTRI-SCORE®	SCENARIO 1	SCENARIO 2	SCENARIO 3
<b>A</b>	<b>Waters only</b>	<b>Waters</b> <b>Less than 0.05% sugars</b> <small>Waters (natural mineral water, spring water, table water and drinking water), including those for which the only added ingredients are carbon dioxide and/or flavourings (acc. to Annex V number 3, EU Food Information Regulation 1169/2011)</small>	<b>Waters</b> <b>Less than 0.05% sugars</b> <small>Waters (natural mineral water, spring water, table water and drinking water), including those for which the only added ingredients are carbon dioxide and/or flavourings (acc. to Annex V number 3, EU Food Information Regulation 1169/2011)</small>	<b>Waters</b> <b>Less than 0.05% sugars</b> <small>Waters (natural mineral water, spring water, table water and drinking water), including those for which the only added ingredients are carbon dioxide and/or flavourings (acc. to Annex V number 3, EU Food Information Regulation 1169/2011)</small>
<b>B</b>	<b>Min to 1 point (FSA score)</b>	<b>0.05-2.5% sugars</b> <small>Beverages qualifying for the following nutrition claims as per the EU Claims Regulation 1924/2006:  "sugars free" (max 0.5g sugars/100ml)  "energy free" (max 4 kcal (17 kJ)/100ml)  "low in sugars" (max 2.5g sugars/100ml)</small>	<b>Min to 2 points (FSA score)</b> <small>Current Nutri-Score system + 1 pt  Content of sugars: 0-1.5%</small>	<b>Min to 3 points (FSA score)</b> <small>Current Nutri-Score system + 2 pts  Content of sugars: 0-1.76%</small>
<b>C</b>	<b>2 to 5 points (FSA score)</b>	<b>&gt; 2.5 – 5% sugars</b> <small>Beverages qualifying for "low in calories" as per the EU Claims Regulation 1924/2006 - max 20 kcal (80 kJ)/100ml</small>	<b>3 to 6 points (FSA score)</b> <small>Current Nutri-Score system + 1 pt  Content of sugars: 1.55-4.5%</small>	<b>4 to 7 points (FSA score)</b> <small>Current Nutri-Score system + 2 pts  Content of sugars: 1.77-5.29%</small>
<b>D</b>	<b>6 to 9 points (FSA score)</b>	<b>&gt; 5 – 7% sugars</b> <small>Beverages that may qualify for "reduced sugars" as per the EU Claims Regulation 1924/2006</small>	<b>7 to 10 points (FSA score)</b> <small>Current Nutri-Score system + 1 pt  Content of sugars: 4.55-7.5%</small>	<b>8 to 10 points (FSA score)</b> <small>Current Nutri-Score system + 1 pt  Content of sugars: 5.30-7.5%</small>
<b>E</b>	<b>10 to max points (FSA score)</b>	<b>&gt; 7% sugars</b> <small>Other beverages</small>	<b>11 to max points (FSA score)</b> <small>Current Nutri-Score system + 1 pt  Content of sugars: ≥7.55%</small>	<b>11 to max points (FSA score)</b> <small>Current Nutri-Score system + 1 pt  Content of sugars: ≥7.55%</small>

Table 5: Alternative approaches

<sup>56</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R1169&from=EN>

## 4.2 France

### 4.2.1 Consistency between claims and Nutri-Score ranking

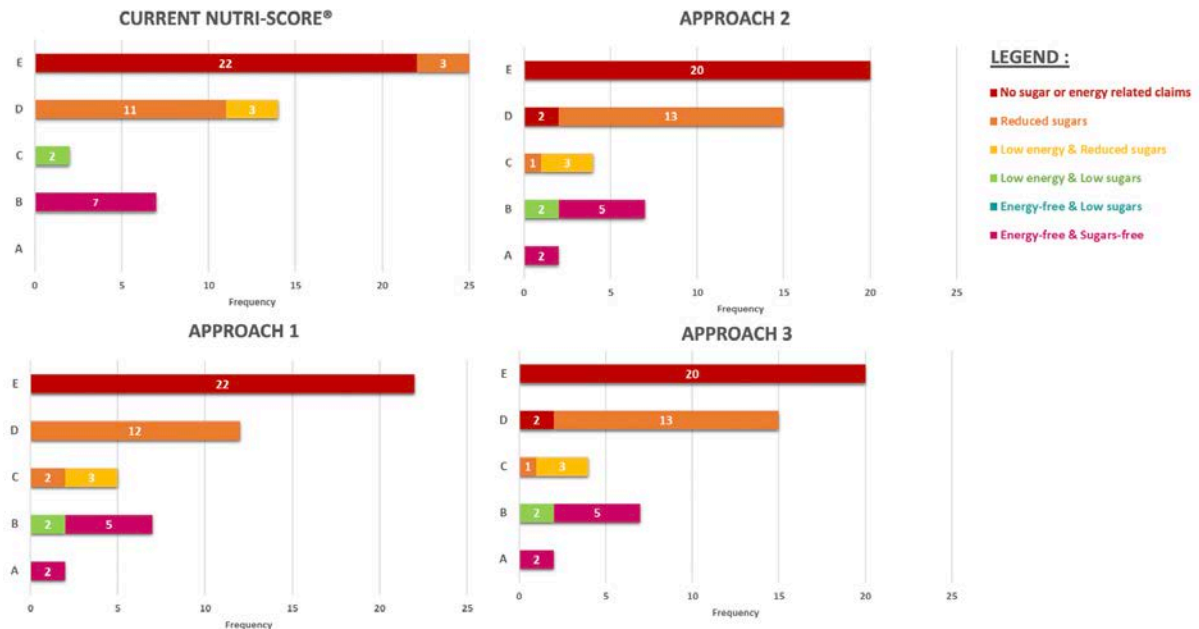


Figure 15 : Distribution according to the Nutri-Score related nutrition claims in France

Approach 1 achieves a high level of consistency between claims & Nutri-Score. All the drinks without claims are ranked as an E. The “low energy” and “reduced sugars” claimed drinks are ranked C and not D (current Nutri-Score) and the “low energy” and “low sugars” drinks are ranked B and not C (current Nutri-Score). However, we can highlight that some slight potential confusions still remains with “reduced sugars” claims drinks which is in two different classes - C or D.

Approaches 2 and 3 also produce a high level of consistency between claims and Nutri-Score. The “low energy” and “reduced sugars” claimed drinks are ranked C and not D (current Nutri-Score) and the “low energy” and “low sugars” drinks are ranked B and not C (current Nutri-Score). However, we can highlight some slight potential confusion still remaining, with “reduced sugars” claimed drinks in two different classes, C and D.

### 4.2.2 Distribution

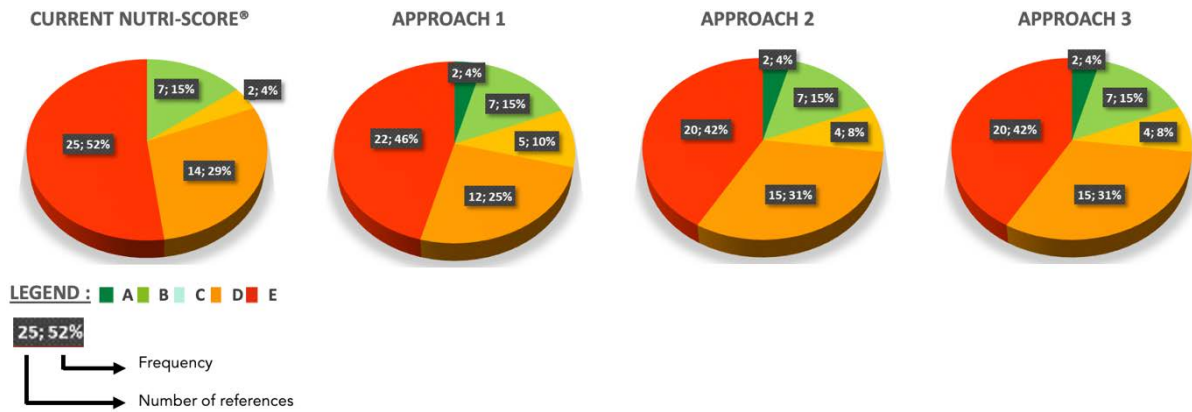


Figure 16 : Distribution according to the Nutri-Score in France



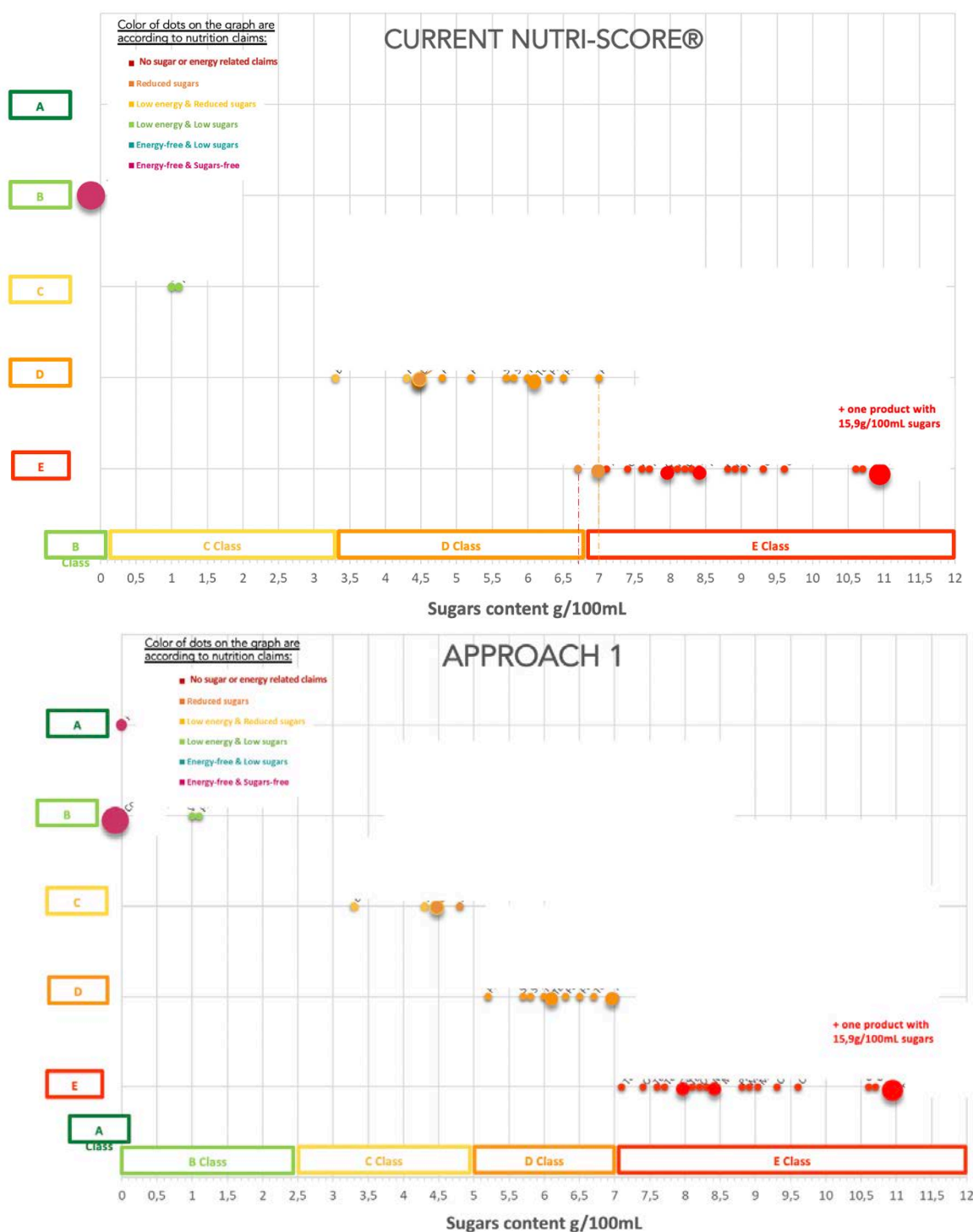
Figure 17 : Distribution according to the Nutri-Score and the FSA score/sugars content in France

As we can observe on the graphs above, the distribution is more balanced for all three approaches in terms of reflecting more accurately the nutritional composition of soft drinks. 71% of the drinks are D or E in comparison to 81% with the current Nutri-Score. There are two drinks in Nutri-Score A which are flavoured waters. This class is not highly represented for the 48 drinks, but it would allow easier distinction by consumers in stores. All 5 rankings are represented.

The approaches 2 and 3 are exactly the same due to the lack of drinks with a FSA score of 4 and a FSA score of 7.

All 3 approaches allow a more balanced distribution. Approach 1 reduces the frequency of E from 52% to 46% and approaches 2 and 3 from 52% to 42%. All 3 approaches introduce two A rankings and improve the C class by increased frequency from 4% (current Nutri-Score approach) to 10% and 8% for approach 1 and approaches 2 and 3 respectively.

### 4.2.3 Incentive for reformulation by manufacturers





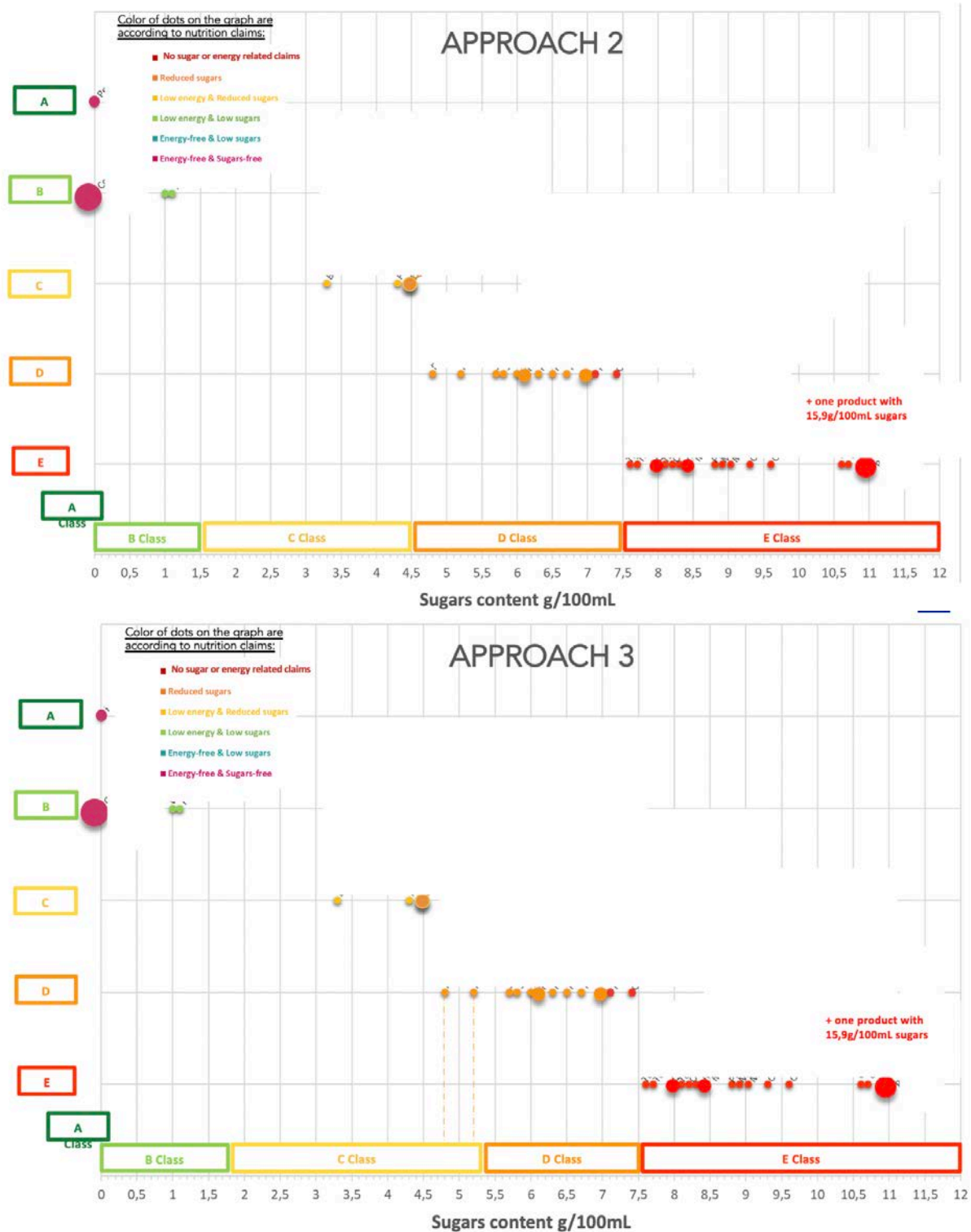


Figure 18 : Distribution according to the Nutri-Score and the sugars content related nutrition claims in France

Except for approach 1 which is defined in respect of the content of sugars, sugars thresholds of the cut-offs of the other approaches are indicative because the FSA score also depends on energy content. Slight differences in energy when drinks are close to cut-offs may lead to overlaps



For approach 1, the D class corresponds to a sugars content between 5 and 7g versus 3,3 and approximately 6,7 or 7g/100ml for the current Nutri-Score. For the numerous drinks between 5 and 7g/100ml of sugars, the maximum reduction to reach C is less than 30%. There is practically no change for class E compared to the current Nutri-Score. This approach also allows some drinks to move directly to C (e.g. Lipton Iced Tea with 4,5g of sugars which has already achieved sugar reductions).

For approach 2, the D class is smaller, with thresholds of sugars between around 4,5 - 7,5g/100ml. This allows some drinks to move directly to C (e.g. Lipton Ice Tea with 4,5g/100ml of sugars which has already achieved sugars reductions) and makes the C class more attainable for the drinks between 5,5 and 7g/100ml of sugars. In addition, the D class is slightly more attainable for the drinks between 8 and 8,5g/100ml of sugars.

For approach 3, the D class is considerably smaller (approximately from 5,4 to 7,5g/100ml of sugars) making the C class threshold more accessible for the drinks between 5,5 and 7g/100ml of sugars. However, the thresholds of the C class are very wide (approximately from 1,8 to 5,4g/100ml of sugars) which do not incentivize the reformulation of drinks in the C class.

### 4.3 Belgium

#### 4.3.1 Consistency between claims and Nutri-Score ranking

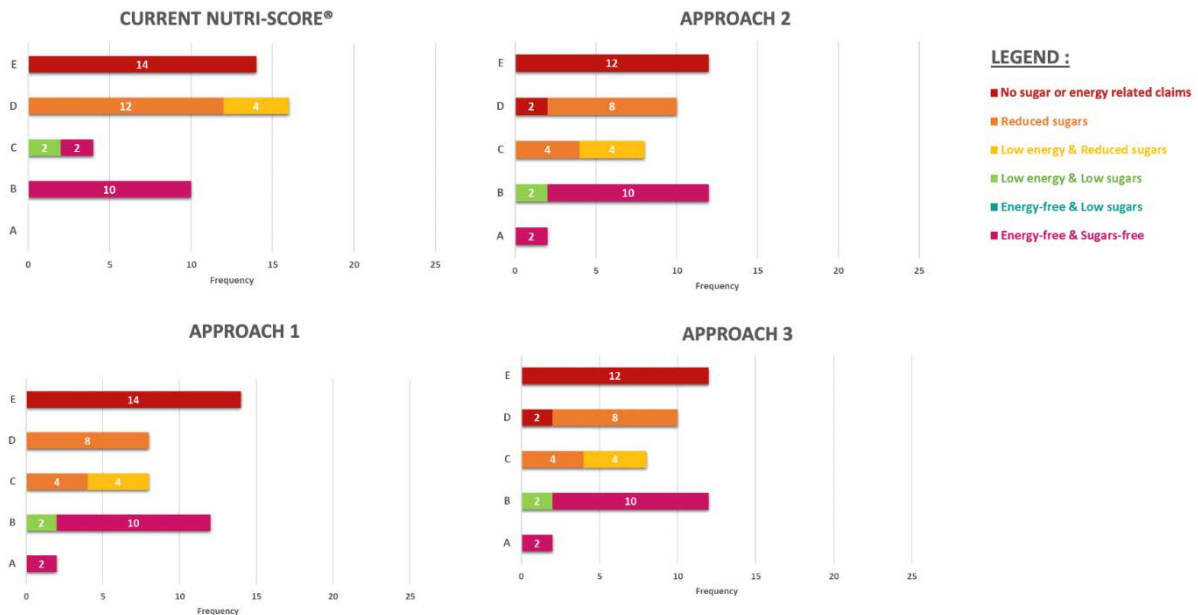


Figure 19 : Distribution according to the Nutri-Score related nutrition claims in Belgium

Approach 1 achieves a high level of consistency between claims and Nutri-Score. No drinks with claims are ranked E which would be confusing for consumers. The drinks with “low energy” and “reduced sugars” claims are ranked C and not D (current Nutri-Score) and the “low energy” and “low sugars” drinks are ranked B and not C (current Nutri-Score). However,

we can highlight some slight potential confusions remaining for drinks with “reduced sugars” claims which are in 2 different classes - C or D.

Approaches 2 and 3 also produce a high level of consistency between claims and Nutri-Score. The only difference with the approach 1 is between the E and D classes. Some slight potential confusions remaining with drinks without claim which are in the D class.

### 4.3.2 Distribution

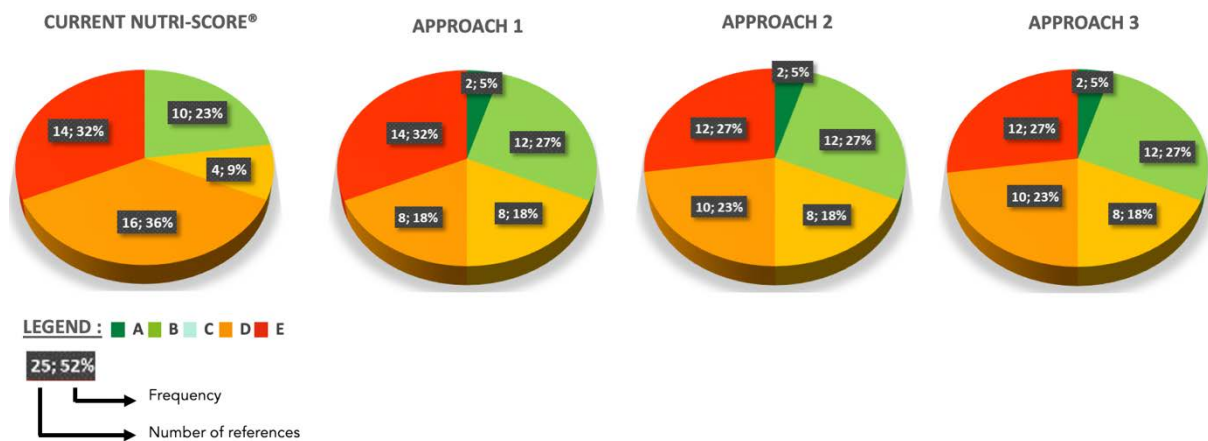


Figure 20 : Distribution according to the Nutri-Score in Belgium

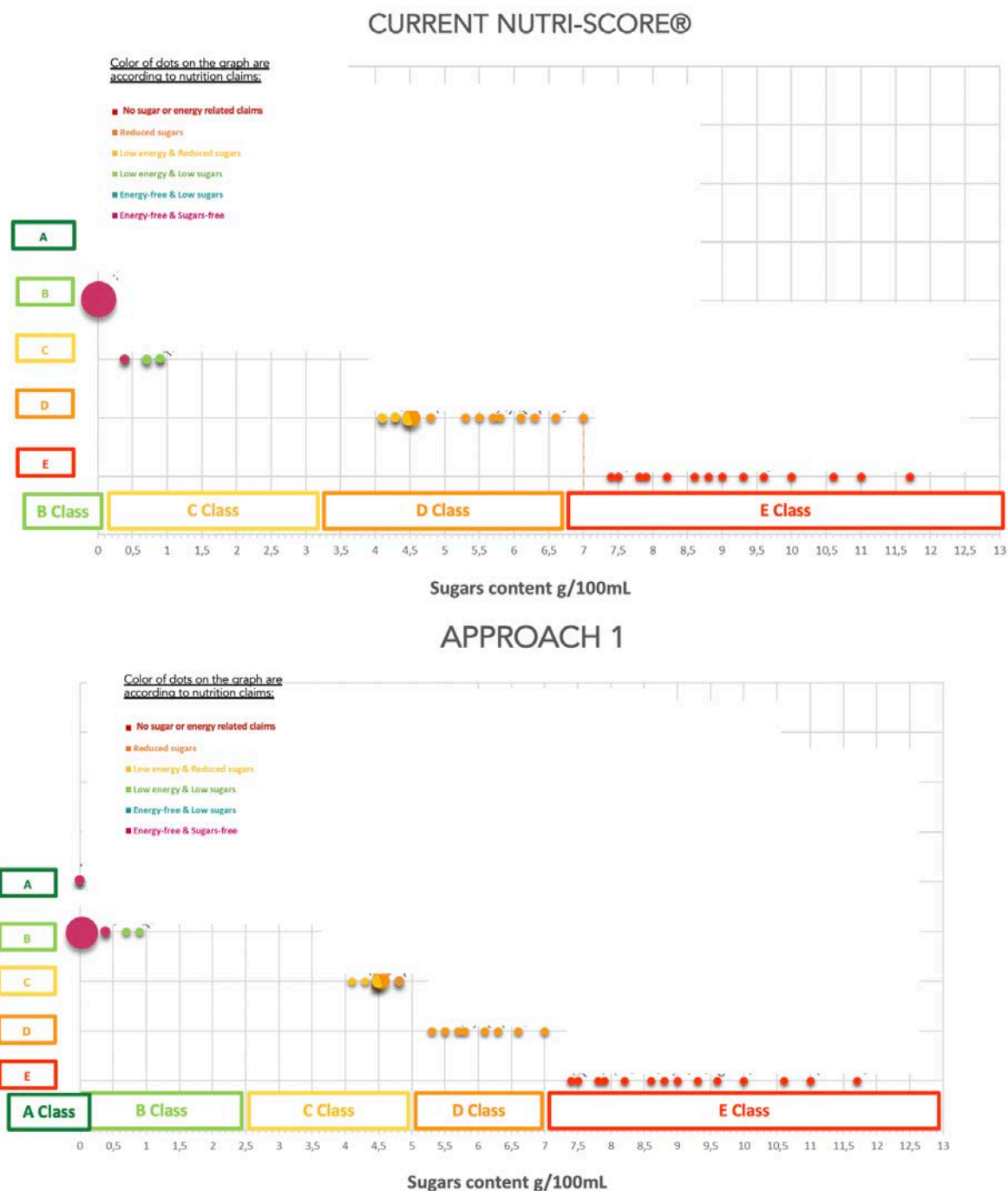


Figure 21 : Distribution according to the Nutri-Score and the FSA score/sugars content in Belgium

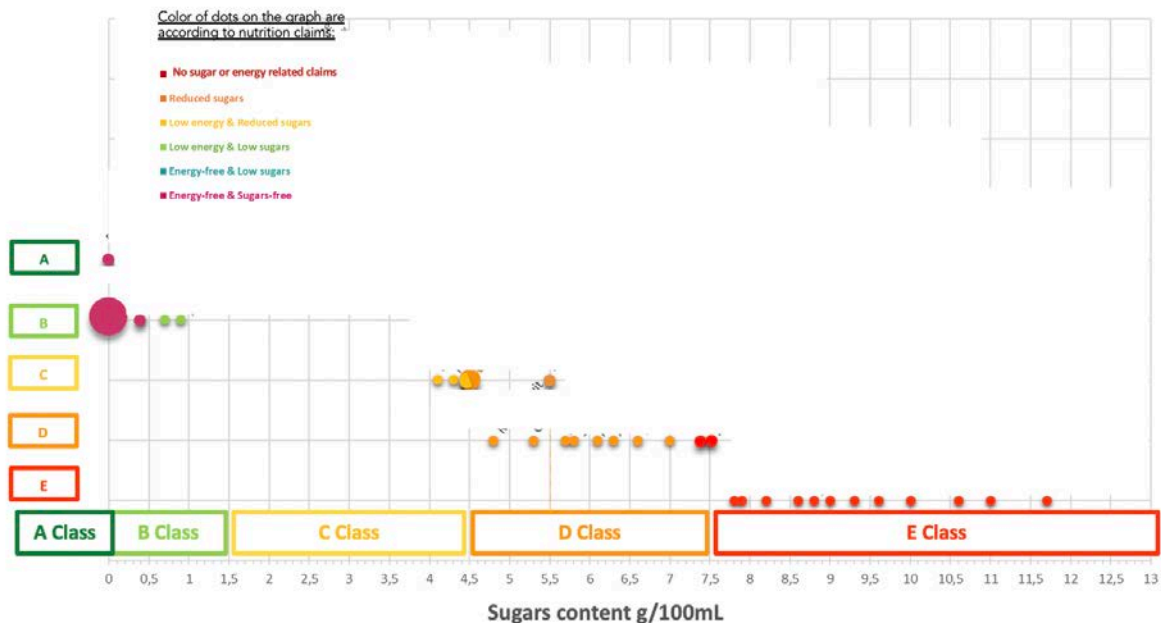
As we can observe on the graphs above, the distribution is well balanced for all three approaches. The approaches 2 and 3 are exactly the same due to the lack of drinks with an FSA score of 4 and an FSA score of 7. Approach 1 does not reduce E frequency whereas

approaches 2 and 3 slightly reduce it from 32% to 27%. They are all introducing two A rankings and improve the C class by increasing frequency from 9% (current Nutri-Score approach) to 18% for all 3 approaches.

### 4.3.3 Incentive for reformulation by manufacturers



### APPROACH 2



### APPROACH 3

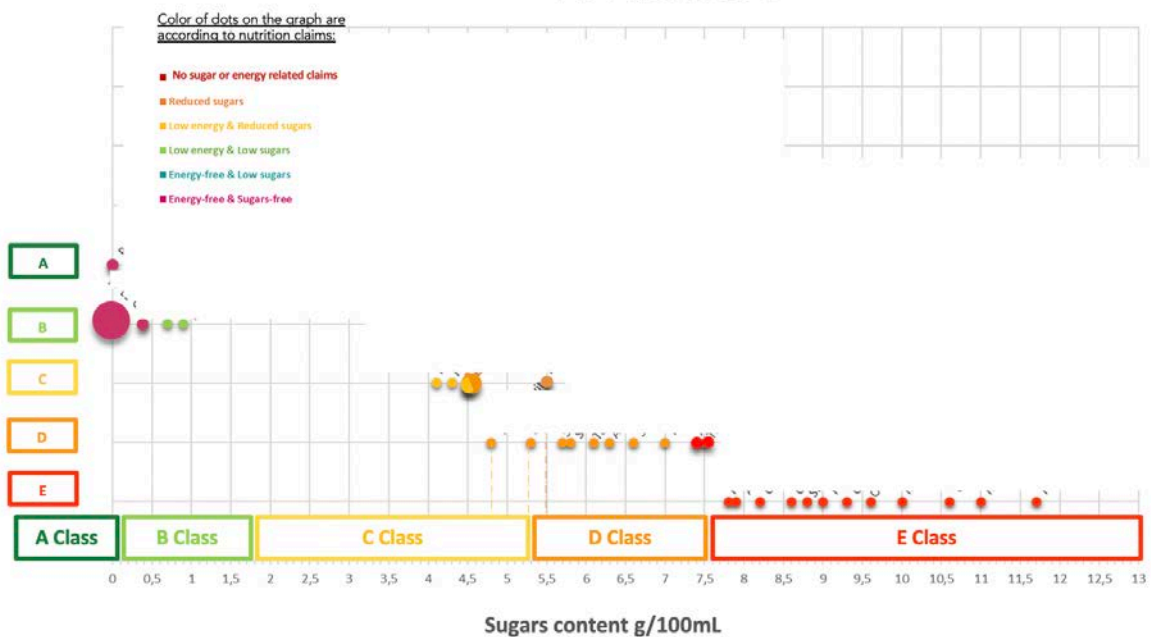


Figure 22 : Distribution according to the Nutri-Score and the sugars content related nutrition claims in Belgium

Except for approach 1 which is defined in respect of the content of sugars, sugars thresholds of the cut-offs of the other approaches are indicative because the FSA score also depends on energy content and slight differences in energy when drinks are close to cut-offs may lead to overlaps

For the approach 1, the D class corresponds to sugars contents between 5 and 7g versus 3,3 and approximately 6,7 or 7g/100ml for the current Nutri-Score. For the numerous drinks between 5 and 6,5g/100ml of sugars, the maximum reduction to reach C is less than 20%

which is more reachable and motivating. There is practically no change for class E compared to the current Nutri-Score. This approach also allows some drinks to move directly to C (e.g. a certain ice tea with 4,5g/100ml of sugars which has already performed sugars reductions).

For the approaches 2 and 3, the D class is smaller, with sugars thresholds around 4,5 - 7,5/100ml. This makes the D class slightly more reachable for E drinks with sugars content between 7,5 and 8g/100ml. This allows some drinks to move directly to C (e.g. a certain ice tea with 4,5g/100ml of sugars which has already performed sugars reductions) and makes the C class more reachable for the drinks between 5,5 and 7g/100ml of sugars. In addition, the D class is slightly more reachable for the drinks between 8 and 8,5g/100ml of sugars.

Even if it has a wider D class which makes reformulation not always motivating for some drinks, the current Nutri-Score is slightly better than others to incentivize reformulation on the studied portfolio of products because the majority of drinks are close to B and C thresholds. The proposed approaches open the door for innovation and reformulation opportunities by:

- Allowing soft drinks to be ranked across the 5 different NS rankings e.g Flavoured waters eligible for a Nutri-Score A.
- Making it accessible for soft drinks eligible to nutrition claims e.g no sugar, low sugar to access the Nutri-Score B class.

In conclusion, differences remain quite small between approaches regarding incentivising reformulation.

## 4.4 Spain

### 4.4.1 Consistency between claims and Nutri-Score ranking

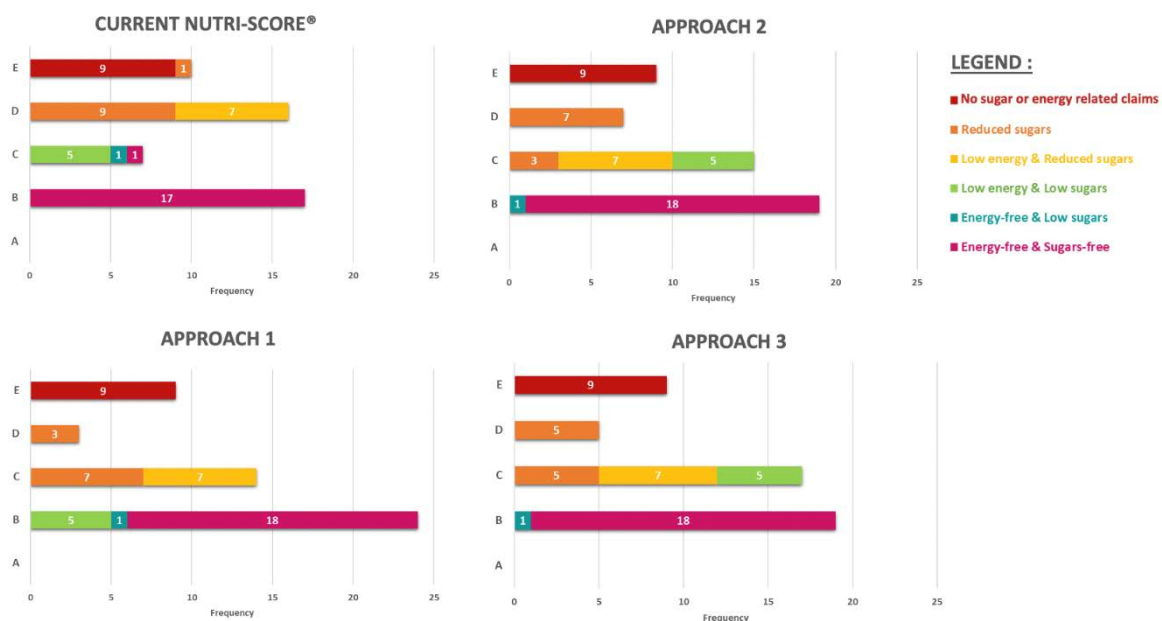


Figure 23 :Distribution according to the Nutri-Score related nutrition claims in Spain

Approach 1 achieves a high level of consistency between claims & Nutri-Score. There is a clear difference in terms of ranking between drinks with “no claim” (100% E-class), and “low energy” and “low sugars” claims (100% B-class). However, “energy free” and “sugars free” claims drinks are also all in class B. In addition, we can highlight that some slight potential confusions still remain in the C class with drinks with 2 different combinations of claims and the B class with 3 different combinations of claims.

Approaches 2 and 3 also produce quite a high level of consistency between claims and Nutri-Score. There is a clear difference in terms of ranking between drinks with “no claim” (100% E), “low energy & low sugars” claims (100% C) and “energy free & sugars free” (100% B). However, we can highlight some slight potential confusion still remaining in the C class with drinks with 3 different combinations of claims and the B class with 2 different combinations of claims.

#### 4.4.2 Distribution

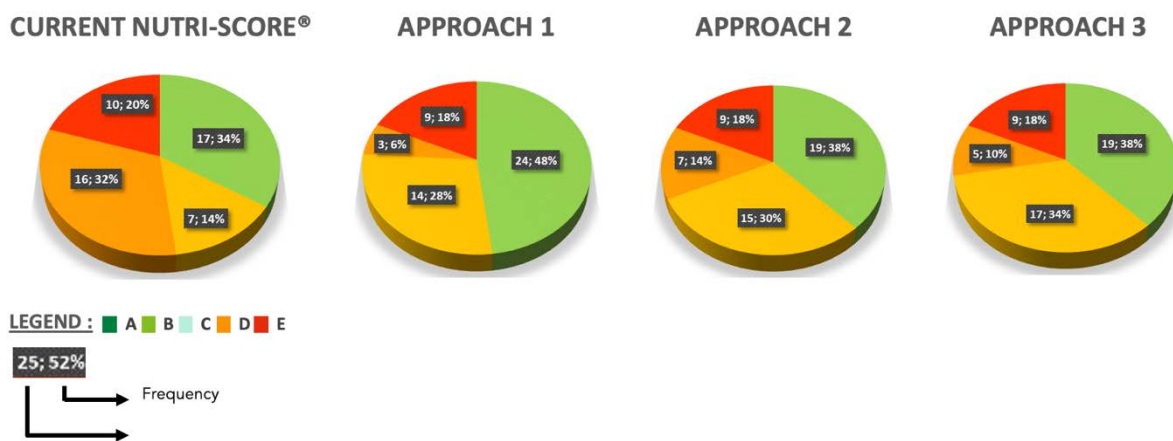


Figure 24 : Distribution according to the Nutri-Score in Spain



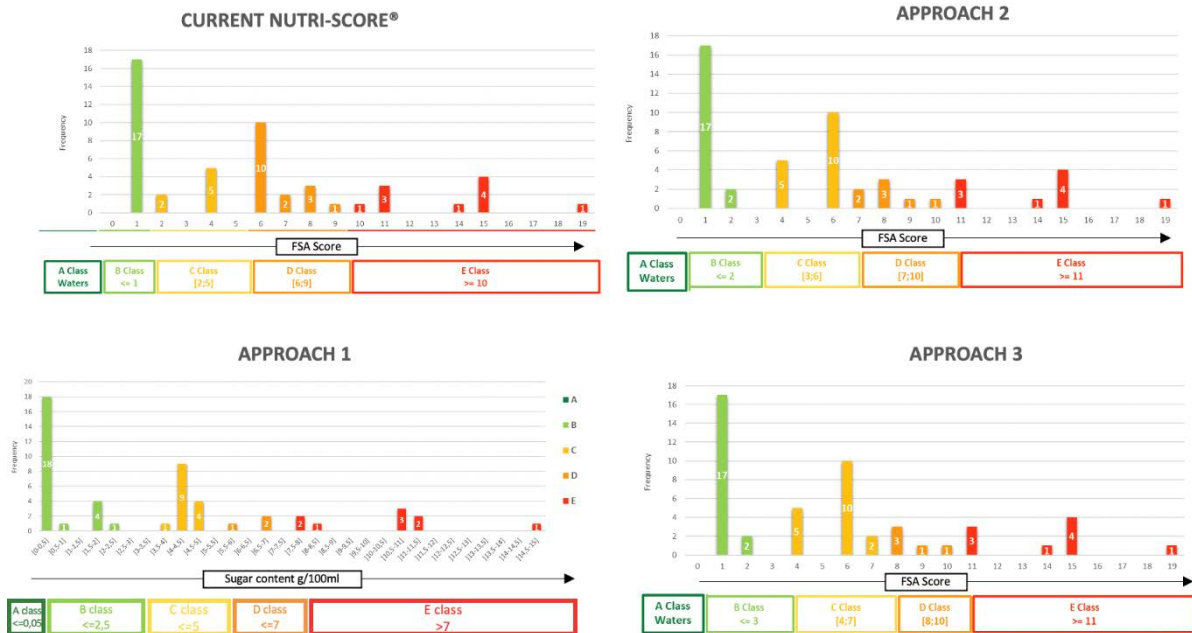


Figure 25 : Distribution according to the Nutri-Score and the FSA score/sugars content in Spain

As we can observe on the graph above, the distribution is balanced [according to the definition of S. Hercberg and his team](#). They define: “Discriminating performance is satisfying when at least three classes of Nutri-Score are available in the food group” (Dréano-Trécant, et al., 2020)<sup>57</sup>.

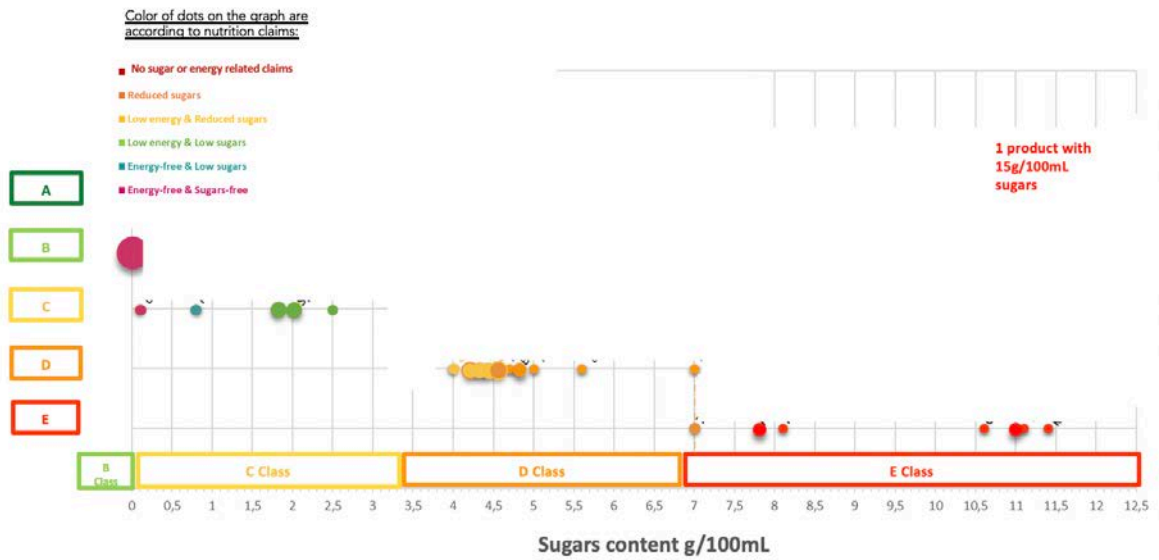
Almost 50% of the drinks are ranked B in approach 1 and almost 40% are ranked B in approaches 2 and 3.

<sup>57</sup><https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7284849/>

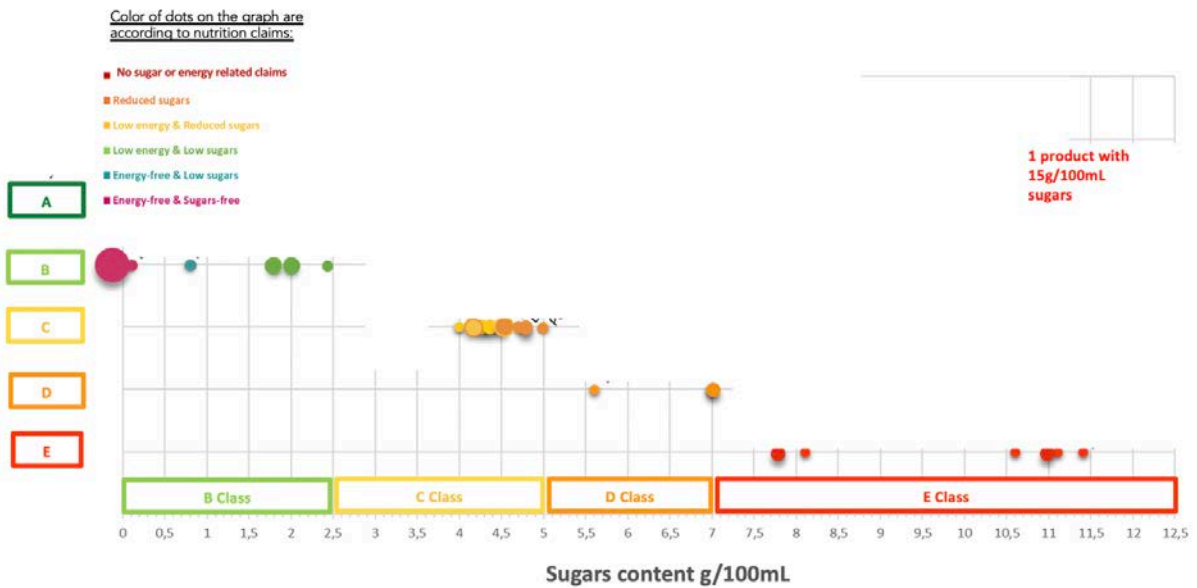


### 4.4.3 Incentive for reformulation by manufacturers

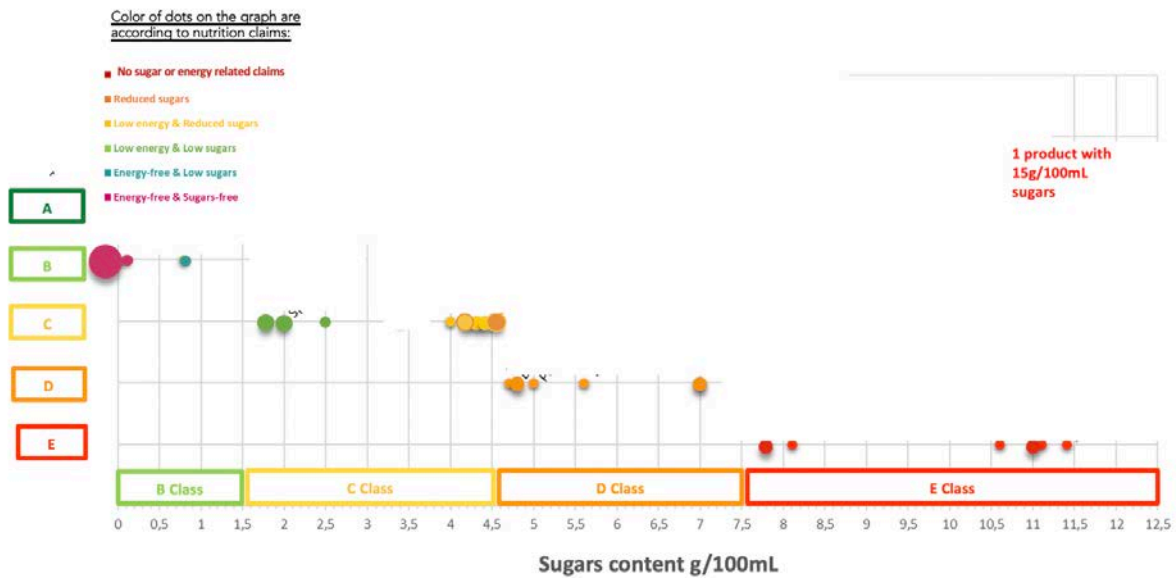
CURRENT NUTRI-SCORE®



APPROACH 1



APPROACH 2



APPROACH 3

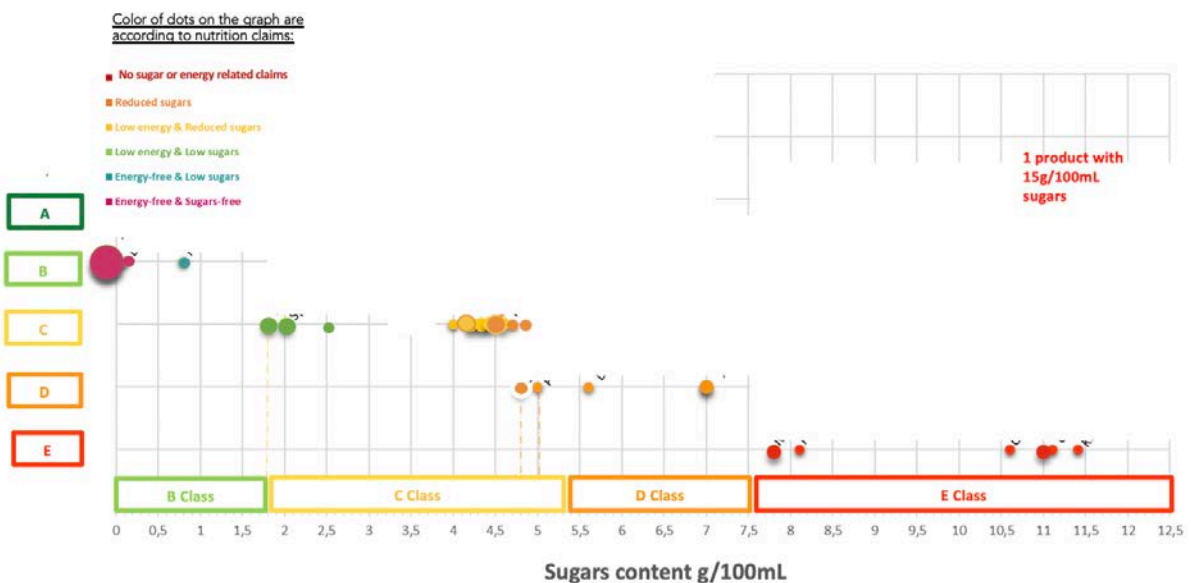


Figure 26 : Distribution according to the Nutri-Score and the sugars content related nutrition claims in Spain

Except for approach 1 which is defined on sugars content, sugars thresholds of the cut-offs of the other approaches are indicative because FSA score also depends on energy content and slight differences in energy when drinks are close to cut-offs may lead to overlaps

For approach 1, most of the drinks are now in C instead of D (with content in sugars from 4g to 5g/100ml). However, to reach the B class, the threshold is now quite far for these drinks. For the drinks between the D and the E class, the performance is similar to the current Nutri-Score.

For approaches 2 and 3, they are similar to approach 1 for the threshold C/D classes. In addition, these approaches make the B class accessible for 4 drinks around 2g/100ml of sugars, they also make the D class accessible for 3 drinks ranked E (around 7,5 to 8g/100ml of sugars)

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## **APPENDIX 1: THE 15 GUIDING PRINCIPLES FOR FRONT OF PACK LABELLING ('FOPL') SYSTEMS ACCORDING TO THE WORLD HEALTH ORGANISATION**

### **A1.1 Overarching principles**

**Principle 1:** The FOPL system should be aligned with national public health and nutrition policies and food regulations as well as with relevant WHO guidance and Code guidelines.

**Principle 2:** A single system should be developed to improve the impact of the FOPL system.

**Principle 3:** Mandatory nutrient declarations on food packages are a prerequisite for FOPL systems.

**Principle 4:** A monitoring and review process should be developed as part of the overall FOPL system for continuing improvements or adjustments as required.

**Principle 5:** The aims, scope and principles of the FOPL system should be transparent and easily accessible.

### **A1.2 Principles for a collaborative approach to FOPL development**

**Principle 6:** Government should lead the multisectoral stakeholder engagement process for the development of trusted systems, including nutrient profiling criteria.

### **A1.3 Principles for FOPL system format**

#### **Design**

**Principle 7:** The FOPL system should be interpretive, based on symbols, colours, words and/or quantifiable elements.

**Principle 8:** The design of FOPL systems should be understandable to all population subgroups and be based on the outcome of consumer testing, evidence of system performance and stakeholder engagement.

#### **Content**

**Principle 9:** Content should encompass nutritional criteria and food components that aim to inform choice and enable interpretation of food products against risks for diet-related noncommunicable diseases (NCDs) and for promoting healthy diets.

**Principle 10:** The FOPL system should enable appropriate comparisons between food categories, within a food category, and between foods within a specific food type.

### **A1.4 Principles for the implementation of FOPL systems**

**Principle 11:** Uptake of the FOPL system should be encouraged across all eligible packaged foods, either through regulatory or voluntary approaches.



**Principle 12:** Early engagement of industry groups and the development of guidance documents (i.e. style guide) are necessary in facilitating the implementation of the FOPL system.

**Principle 13:** Engagement with key opinion leaders (including food and nutrition experts and the media) and consumers is essential and should be well managed.

**Principle 14:** Well-resourced public education campaigns and consumer education with special consideration of techniques to target at-risk groups are necessary for improving nutrition literacy and consumer understanding and use of the FOPL system.

**Principle 15:** Baseline data should be collected to support monitoring and evaluation of the impact on consumers and reformulation of food products.

## APPENDIX 2: EXTRACTION FOR FRENCH MARKET OF GLOBALDATA TOP 48 SOFT DRINKS ACCORDING TO MARKET SHARE

**NB: Products not listed in order of market share**

Company	Brand
Coca Cola	Capri-Sun Other Fruit
Coca Cola	Cherry Coke Cola/Cherry
Coca Cola	Coca-Cola Cola
Coca Cola	Coca-Cola Light
Coca Cola	Coca-Cola Zero Cola
Coca Cola	Fanta Lemon
Coca Cola	Fanta Orange
Coca Cola	Fanta Zero Orange
Coca Cola	Fuze Tea Peach
Coca Cola	Monster Original Energy
Coca Cola	Sprite Lemon-Lime
Coca Cola	Sprite Zero Lemon-Lime
Coca Cola	Tropico Tropical
Danone	Badoit Other Fruit
Danone	Volvic Zest Lemon
Monin	Monin Cocktail Mix (Fruit) (DILUTION 1+8)
Monin	Monin Other Fruit (based on 'Fraises des bois' version) (DILUTION 1+8)
Moulin de Valdonne	Moulin De Valdonne Other Fruit - grenadine flavour) (DILUTION 1+8)
Nestlé	Perrier Lemon
Nestlé	Perrier Lime
PepsiCo	7-Up Lemon-Lime (based on data provided for 7-Up)
PepsiCo	7-Up Mojito
PepsiCo	Lipton Ice Tea Peach
PepsiCo	Lipton Ice Tea Plain Tea
PepsiCo	Pepsi Max Cola
PepsiCo	Pepsi-Cola Cola
PepsiCo	Pepsi-Cola Cola reformulated 2020
Red Bull	Red Bull Original Energy
Suntory	Oasis Apple/Blackcurrant/Raspberry
Suntory	Oasis Duo D'Oranges
Suntory	Oasis Tropical
Suntory	Orangina Orange
Suntory	Pulco Lemon
Suntory	Schweppes Citrus (data given for Schweppes Agrumes)
Suntory	Schweppes Tonic/Indian Tonic
Teisseire	Fruit Shoot Orange (data for Tropical version)
Teisseire	Teisseire 0% Grenadine
Teisseire	Teisseire Blackcurrant
Teisseire	Teisseire Cocktail Mix
Teisseire	Teisseire Grenadine
Teisseire	Teisseire Lemon
Teisseire	Teisseire Mint
Teisseire	Teisseire Orange
Teisseire	Teisseire Other Fruit (based on "apricot" version)
Teisseire	Teisseire Peach
Teisseire	Teisseire Strawberry

### APPENDIX 3: EXTRACTION FOR BELGIAN MARKET OF GLOBALDATA TOP 45 SOFT DRINKS ACCORDING TO MARKET SHARE

*NB: Products not listed in order of market share*

Company	Brand
Arizona	Arizona Mixed Fruit ("Fruit Punch")
Coca Cola	Aquarius (Coca-Cola) Lemon
Coca Cola	Aquarius (Coca-Cola) Orange
Coca Cola	Aquarius (Coca-Cola) Peach
Coca Cola	Capri-Sun Orange
Coca Cola	Coca-Cola
Coca Cola	Coca-Cola Light
Coca Cola	Coca-Cola Zero
Coca Cola	Coca-Cola Zero Caffeine Free
Coca Cola	Fanta Lemon
Coca Cola	Fanta Orange
Coca Cola	Fanta Zero Orange
Coca Cola	Fuze Tea Lemon
Coca Cola	Fuze Tea Peach Hibiscus
Coca Cola	Monster Citrus
Coca Cola	Nalu Cocktail Mix (Fruit)
Coca Cola	Sprite Lemon-Lime
Coca Cola	Sprite Zero Lemon-Lime
Fever-Tree	Fever-Tree Tonic
Nestlé	Perrier other fruit (data provided for Perrier Citron)
Nestlé	San Pellegrino Aranciata Blood Orange
PepsiCo	7-Up Free Lemon-Lime
PepsiCo	Lipton Ice Tea Peach
PepsiCo	Lipton Ice Tea Plain Tea
PepsiCo	Lipton Ice Tea Zero Lemon
PepsiCo	Lipton Lemon
PepsiCo	Pepsi Max Cola
PepsiCo	Pepsi Max Cool Lemon Cola/Lemon
PepsiCo	Pepsi-Cola Cola
Red Bull	Red Bull Original Energy
Spadel	Spa Duo Mixed Fruit ("Peach-Apple   Cap Spa - Duo")
Spadel	Spa Touch of Lemon
Suntory	Gini Lemon
Suntory	Oasis Orange
Suntory	Oasis Tropical
Suntory	Orangina Orange
Suntory	Schweppes Agrum Citrus Citrus
Suntory	Schweppes Tonic/Indian Tonic Tonic
Teisseire	Teisseire 0% Other Fruit ("Teisseire Syrup   Lemon 0%")
Teisseire	Teisseire Grenadine
Teisseire	Teisseire Other Fruit ("Teisseire Syrup   Passionfruit")
Tonissteiner	Tonissteiner Lemon
Tonissteiner	Tonissteiner Orange
Tonissteiner	Tonissteiner Other Fruit (" Tonissteiner Multifruit")

## APPENDIX 4: EXTRACTION FOR SPANISH MARKET OF GLOBALDATA TOP 50 SOFT DRINKS ACCORDING TO MARKET SHARE

**NB: Products not listed in order of market share**

Company	Brand
Bifrutas	Bifrutas Pineapple/Mango ("Milk with tropical fruit juice")
Bifrutas	Bifrutas Zero Pineapple/Grape/Mango ("Milk drink and tropical fruit juice, 0% fat ")
Coca Cola	Aquarius Orange
Coca Cola	Aquarius Other Non-Fruit
Coca Cola	Aquarius Zero Other Non-Fruit
Coca Cola	Coca-Cola
Coca Cola	Coca-Cola Zero
Coca Cola	Coca-Cola Zero Caffeine Free
Coca Cola	Fanta Lemon
Coca Cola	Fanta Orange
Coca Cola	Fanta Zero Orange
Coca Cola	Monster Original Energy
Coca Cola	Nestea Lemon
Coca Cola	Nestea Light Lemon ("NESTEA sugar-free lemon tea drink")
Coca Cola	Nestea Mango/Pineapple
Coca Cola	Sprite Lemon-Lime
Coca-Cola	Aquarius Zero Orange
Coca-Cola	Burn Original Energy
Coca-Cola	Coca-Cola Caffeine Free
Coca-Cola	Coca-Cola Caffeine Free Light
Coca-Cola	Coca-Cola Light
Coca-Cola	Fanta Zero Lemon
Coca-Cola	Monster Energy Zero Ultra Citrus
Coca-Cola	Nordic Mist Tonic
Coca-Cola	Powerade Ice Storm Raspberry
Coca-Cola	Schuss Clear Lemonade ("Schuss soda")
Danone	Font Vella Levité Lemon
Don Simon	Don Simon Lemon
Don Simon	Simon Life Orange
PepsiCo	7-Up Lemon-Lime
PepsiCo	7-Up Light Lemon-Lime
PepsiCo	Kas Bitter Bitters (aperitif)
PepsiCo	Kas Lemon
PepsiCo	Kas Orange
PepsiCo	Lipton Ice Tea Lemon
PepsiCo	Pepsi Max Cola
PepsiCo	Pepsi-Cola Caffeine-Free Light
PepsiCo	Pepsi-Cola Cola
PepsiCo	Pepsi-Cola Light Cola
Red Bull	Red Bull Original Energy
Refrescos del Atlántico	La Revoltosa Clear Lemonade
Sunny Delight	Sunny D Orange/Lime/Grapefruit
Sunny Delight	Sunny D Orange/Mandarin/Grapefruit
Suntory	La Casera Clear Lemonade
Suntory	La Casera Lemon
Suntory	La Casera Orange
Suntory	Schweppes Tonic/Indian
Suntory	Schweppes Zero Orange
Suntory	Trina Orange
Suntory	Schweppes Lemon

## **APPENDIX 5: DEFINITION OF CERTAIN RELEVANT NUTRITION CLAIMS IN ACCORDANCE WITH THE ANNEX TO THE EU REGULATION ON HEALTH AND NUTRITION CLAIMS 1924/2006**<sup>58</sup>

- **Reduced sugars:**  
*The claim ‘reduced sugars’, and any claim likely to have the same meaning for the consumer, may only be made if the amount of energy of the product bearing the claim is equal to or less than the amount of energy in a similar product.*
- **Low energy:**  
*A claim that a food is low in energy, and any claim likely to have the same meaning for the consumer, may only be made where the product does not contain more than 40 kcal (170 kJ)/100 g for solids or more than 20 kcal (80 kJ)/100 ml for liquids. For table-top sweeteners the limit of 4 kcal (17 kJ)/portion, with equivalent sweetening properties to 6 g of sucrose (approximately 1 teaspoon of sucrose), applies.*
- **Low sugars:**  
*A claim that a food is low in sugars, and any claim likely to have the same meaning for the consumer, may only be made where the product contains no more than 5 g of sugars per 100 g for solids or 2,5 g of sugars per 100 ml for liquids.*
- **Energy-free:**  
*A claim that a food is energy-free, and any claim likely to have the same meaning for the consumer, may only be made where the product does not contain more than 4 kcal (17 kJ)/100 ml. For table-top sweeteners the limit of 0,4 kcal (1,7 kJ)/portion, with equivalent sweetening properties to 6 g of sucrose (approximately 1 teaspoon of sucrose), applies.*
- **Sugars-free:**  
*A claim that a food is sugars-free, and any claim likely to have the same meaning for the consumer, may only be made where the product contains no more than 0,5 g of sugars per 100 g or 100 ml.*

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<sup>58</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R1169&from=EN>