

Policy Options Paper: Improving the composition of the food supply in relation to industrially-produced trans fats

Contents

1. Executive Summary.....	1
2. Introduction	8
2.1 Purpose of this paper	8
2.2 Scope and terminology	8
3. Background	9
4. What is the problem	10
4.1 About trans fats	11
4.2 Health risks of trans fats consumption	11
4.3 Dietary advice in relation to trans fats in Australia, New Zealand and internationally.....	12
4.4 Trans fat intakes and associated health outcomes in Australia and New Zealand.....	12
4.5 Trans fat content of foods in Australia and New Zealand	14
4.6 Limitations of actions underway in Australia and New Zealand to support consumers to limit consumption of trans fats.....	16
4.7 Reformulation activities to reduce trans fat in foods in Australia and New Zealand.....	18
4.8 International action to reduce trans fats.....	20
5. Why is Government action needed?	24
5.1 Objectives.....	24
6. Policy options.....	26
6.1 Status Quo.....	26
6.2 Voluntary reformulation	27
6.3 Regulatory limits for industrially-produced trans fats in processed foods.....	29
6.4 Prohibiting use of partially-hydrogenated oils in processed foods	31
6.5 Options considered but not pursued	32
7. Assessment of how well the proposed policy options achieve the objective of this work.....	35
8. What is the likely net benefit of the options	38
Benefits	38
Costs.....	39
10. Preferred policy option	40
11. Implementation and review.....	40
References	40

Appendix 1	45
Statement agreed by Food Ministers in relation to composition of the food supply.	45
Appendix 2	47
Legislative approaches to eliminate trans fats internationally [12, 62]	47

1. Executive Summary

ABOUT TRANS FATS

Trans fats (also known as trans fatty acids or TFAs) are a type of fat found naturally in small amounts in ruminant animal products (e.g. butter, dairy and meat) (ruminant trans fats). Trans fats may also be produced through manufacturing processes when liquid vegetable or fish oils are partially-hydrogenated or hardened to create spreads such as margarines, cooking fats for deep frying and shortening for baking (industrially-produced trans fats).

Trans fat intake is strongly associated with increased risk of coronary heart disease and related mortality. Trans fats have no proven health benefits. Compared to consumption of other fats, trans fats elevate the body's levels of LDL (bad) cholesterol and reduce HDL (good) cholesterol, and increase the ratio of total cholesterol to HDL cholesterol which is a strong predictor of risk of coronary heart disease [1]. Even small amounts of trans fats can be harmful, with every 2% of energy consumed from trans fats associated with a 23% increased incidence of coronary heart disease [1]. The Global Burden of Disease Study reported that in 2019, diets high in trans fats accounted for 4.3% of all coronary heart disease deaths in Australia, and 3.3% in New Zealand [2].

The World Health Organization (WHO) and Nutrient Reference Values (NRV) for Australia and New Zealand provide quantified recommendations to limit intake of trans fat. While recent data on consumption of trans fats in Australia and New Zealand is limited, older estimates indicate that on average, Australians and New Zealanders are not exceeding the WHO or NRV recommended limit for trans fat intake [3, 4]. Australian modelling identifies inequalities in trans fat consumption with estimates that 14% of those with the lowest level of income and 14% of those with the lowest level of education exceed the WHO recommended limit [5]. A separate analysis [6] also reported that education and income were significantly associated with trans fat intake. Higher education and income is associated with lower consumption of trans fats.

First nation populations, and those from lower socio-economic areas experience a higher burden of heart disease. In Australia, the aged-standardised rate of hospitalisations, deaths and total burden due to coronary heart disease were more than twice as high amongst Aboriginal and Torres Strait Islander people compared to non-Indigenous Australians. Hospitalisations for coronary heart disease were 1.3 times higher for the lowest socio-economic areas compared to the highest socio-economic areas [7]. In New Zealand ischaemic heart disease and/or heart failure was more likely for Māori and those living in the most deprived neighbourhoods compared with non-Māori and those living in the least deprived neighbourhoods [8]. In New Zealand, the Crown has obligations and commitments under the Treaty of Waitangi/Te Tiriti to address this inequity and protect the health/hauora of Māori.

PURPOSE AND SCOPE OF THIS PAPER

This paper outlines policy options and seeks feedback from stakeholders on eliminating or reducing trans fats to the lowest level possible in the food supply, particularly to protect population groups more vulnerable from the harmful effects of trans fats. Stakeholders' feedback will be used by the Food Regulation Standing Committee (FRSC) to identify a preferred policy option and make a recommendation to Food Ministers.

The health effects of ruminant and industrially-produced trans fat appear to be similar [9]. In recognition that the opportunity to reduce trans fats in the food supply is largely through reformulating foods to remove industrially-produced trans (i.e. partially-hydrogenated vegetable or

fish oils), this paper focusses on industrially-produced trans fats in both packaged foods and unpackaged foods (e.g. items sold at bakeries, fast food outlets etc).

ACTIONS TO ELIMINATE OR MINIMISE INDUSTRIALLY-PRODUCED TRANS FATS

Globally, there has been a major focus on eliminating industrially-produced trans. The WHO has established the REPLACE program with the goal of eliminating industrially-produced trans fats from the global food supply by 2023. Elimination of trans fats in the food supply is one of the ‘best buys’ for prevention of non-communicable diseases recommended by the WHO [10]. The WHO reports that the elimination of industrially-produced trans fats from the food supply is feasible, achievable and a cost effective intervention to prevent cardiovascular disease. The WHO considers that ‘best-practice’ policies for trans fat elimination are a mandatory national limit of 2 g of industrially-produced trans fat per 100 g of total fat in all foods; and a mandatory national ban on the production or use of partially-hydrogenated oils as an ingredient in all foods [11].

WHO reports [11] that 43 countries have implemented best-practice trans fat policies that either virtually eliminate industrially-produced trans fats, or ban partially-hydrogenated oils, protecting 2.8 billion people. The WHO reports [12] that elimination of industrially-produced trans fats is predicted to save 17.5 million lives globally over 25 years and reduce health care costs [12].

The 2019 [13], 2020 [14], 2021 [12] and 2022 [11] monitoring reports from the REPLACE program identify Australia and New Zealand as having ‘missing data’ on implemented policies for trans fat elimination. Recently, Australia has been identified as one of nine countries with the highest estimated proportion of coronary heart disease deaths caused by trans fat intake, which does not have a best-practice policy in place in relation to trans fats [15].

SITUATION IN AUSTRALIA AND NEW ZEALAND

In Australia and New Zealand there are limited regulations in the Australia New Zealand Food Standards Code supporting consumers to identify foods containing trans fats, or seeking to eliminate industrially-produced trans fats from the food supply:

- The trans fat content is not required to be declared on a food label unless a claim is made about cholesterol or polyunsaturated fats or monounsaturated fats in the food. However, some manufacturers may voluntarily declare a food’s trans fat content;
- In the statement of ingredients on a food label, if the manufacturer uses the specific name of an oil (e.g. canola oil), then it must be declared if the oil has undergone a process that has altered its fatty acid composition (such as hydrogenation). However, there is no explicit requirement to declare the degree of hydrogenation (i.e. partially vs fully hydrogenated). If a generic name of the oil is used (e.g. vegetable oil) then there is no requirement to declare whether the oil has undergone a process to change its fatty acid composition;
- There are no compositional requirements in place to limit the use of trans fat ingredients.

In relation to non-regulatory actions, many food manufacturers voluntarily reduced the industrially-produced trans fat content of their foods in the mid-late 2000’s. However, there are no organised non-regulatory actions in place in Australia and New Zealand to eliminate or minimise industrially-produced trans fats from the food supply.

The voluntary actions that many members of the food industry have made to reduce industrially-produced trans fat in their foods are recognised and valued. However, Australian and New Zealand authorities have identified that products containing industrially-produced trans fats are currently available on the market, albeit in a minority of products. A separate 2017 analysis identified that

foods such as pastries, popcorn and baked foods were higher in trans fat in Australia compared to other countries and above regulatory limits for trans fat recommended by the WHO [5].

Recent changes in the global landscape may have further changed the level of trans fats in the food supply in Australia and New Zealand. With more countries adopting regulations to restrict use of industrially-produced trans fats in processed foods, countries such as Australia and New Zealand without trans fat regulations may see increases in products containing industrially-produced trans fats as manufactures of these products seek markets in which to sell their foods [11]. In addition, economic inflation as well as a shortage of cooking oil arising from the Russian and Ukrainian conflict may have led food manufacturers to source cheaper and/or alternate oils containing industrially-produced trans fats.

OBJECTIVE OF THIS WORK

The proposed objective of this work is that industrially-produced trans fats have been eliminated or reduced as much as possible from the food supply in Australia and New Zealand to support all population groups to minimise consumption of trans fats.

POLICY OPTIONS PROPOSED

Three policy options to achieve the objective of this work have been identified. This consultation paper seeks stakeholder views about these options and whether there are other suitable options to achieve the desired outcome. The three proposed options with risks and benefits are summarised below.

Option	Benefits	Risks
<p>1. <u>Status quo</u> No regulatory actions on industrially-produced trans fats and limited information available to consumers on the trans fat content of foods.</p> <p>Voluntary actions to reduce industrially-produced trans fats have been undertaken by industry. However, these voluntary industry actions have not been co-ordinated or monitored in some time.</p>	<p>Limited benefits</p>	<p>Consumers continue to be exposed to industrially-produced trans fats and sectors of the population may continue to exceed recommended trans fat limits.</p> <p>With increasing legislative action internationally, Australia and New Zealand may see an increase in imports of products containing industrially-produced trans fats as manufacturers seek a market to sell their products.</p>
<p>2. <u>Voluntary reformulation</u> Voluntary reformulation targets for industrially-produced trans fats or use of partially-hydrogenated oils could be established through existing reformulation programs such as the Healthy Food Partnership in Australia (Government led).</p>	<p>Simpler to implement compared to legislative approaches and can be more flexible with the ability to change reformulation targets if required.</p>	<p>Relies on strong industry participation, otherwise consumers may continue to be exposed to industrially-produced trans fats and some may continue to exceed recommended trans fat limits.</p> <p>May not reach international manufacturers exporting products to Australia and New</p>

Option	Benefits	Risks
<p>Targets could be established for specific food categories that are high in industrially-produced trans fats. Targets could be set based on international limits to support trade.</p>		<p>Zealand with industrially-produced trans fats.</p> <p>Voluntary reformulation approaches are predicted to have a modest impact on reducing inequalities [16].</p> <p>Industry may replace industrially-produced trans fats with saturated fats, which are less harmful than trans fats but should still be limited in the diet.</p>
<p>3. <u>Regulatory limits for industrially-produced trans fats in processed foods</u></p> <p>A mandatory limit such as of 2g of industrially-produced trans fats per 100g total fat could be introduced for all foods.</p> <p>This option is feasible given healthier replacement oils are available, and are reported not to change the taste of the food or the cost to the consumer and food manufacturers have been successfully removing trans fats from their products in international markets [12].</p>	<p>Would effectively minimise or eliminate industrially-produced trans fats from the food supply and reduce consumption to non-significant levels.</p> <p>Considered by the WHO to be one of the best practice policies for eliminating industrially-produced trans fats from the food supply.</p> <p>Mandatory product reformulation has been predicted to have the greatest benefits for equity [16, 17].</p> <p>Does not require consumer behaviour change, or consumers having the knowledge and skills necessary to identify foods containing industrially-produced trans fats and avoid them.</p> <p>Expected to affect a minority of manufacturers. Achieves a level playing field for industry, including domestic and international manufacturers.</p>	<p>Consideration would need to be given to enforcement methods for foods containing both industrially-produced and ruminant trans fats, due to challenges in differentiating between ruminant and industrially-produced trans fats through analytical methods.</p> <p>Unless well designed regulatory limits are introduced this option may disadvantage dairy and meat products due to the inherent existence of ruminant trans fats which cannot be reformulated and are not in scope of this work.</p> <p>Industry may replace industrially-produced trans fats with saturated fats, which are less harmful than trans fats but should still be limited in the diet.</p>
<p>4. <u>Prohibiting use of partially-hydrogenated oils in processed foods</u></p>	<p>Considered by the WHO to be best practice for eliminating industrially-produced trans fats from the food supply.</p>	<p>Industry may replace industrially-produced trans fats with saturated fats, which are less harmful than trans fats</p>

Option	Benefits	Risks
<p>Use of partially-hydrogenated oils in processed foods would be prohibited.</p> <p>This option is feasible given healthier replacement oils are available, and are reported not to change the taste of the food or the cost to the consumer and food manufacturers have been successfully removing trans fats from their products in international markets [12].</p>	<p>Does not require consumer behaviour change, or consumers having the knowledge and skills necessary to identify foods containing industrially-produced trans fats and avoid them.</p> <p>Mandatory product reformulation has been predicted to have the greatest benefits for equity [16, 17].</p> <p>Expected to affect a minority of manufacturers. Achieves a level playing field for industry, including domestic and international manufacturers.</p> <p>May be easier to enforce than option 3 as enforcement activities can be based on the statement of ingredients if minor changes to labelling regulations are made to require the degree of hydrogenation of a fat to be declared.</p>	<p>but should still be limited in the diet.</p>

OPTIONS CONSIDERED BUT NOT PURSUED

In developing the options proposed in this paper, other options were considered but not pursued. Feedback is sought on these considerations. These options were:

- Education - Education campaigns could inform consumers about the recommendations to limit trans fat consumption and the types of foods to avoid to limit trans fat consumption (particularly industrially-produced trans fats). Without label changes, it may be difficult for consumers to apply the messages in consumer education as they may be unable to identify foods containing trans fats. Education campaigns could also (or instead) be delivered to industry on the importance of removing industrially-produced trans fats from their products and about healthier oil and fat alternatives to use in food manufacturing. However there would be little incentive for industry to apply the education messages, and the education would only be focussed on domestic food producers and not reach international manufacturers.

This option was not seen to adequately achieve the desired outcome because there is insufficient evidence [16] that public health education campaigns are effective for vulnerable populations groups [18] such as those with lower socio-economic status and lower-education levels at (those at higher risk of exceeding trans fat intake recommendations).

- Import restrictions - The option of restrictions on the importation of partially-hydrogenated oils was considered. However, imported food must comply with the Australia New Zealand Food Standards Code, and therefore any import restrictions would also require changes to the Food Standards Code. Changes to the Food Standards Code to prevent use of partially-hydrogenated oils in processed foods is already under consideration.
- Fiscal measures - Taxes could be based on a food's trans fat content with a higher tax applying to foods with higher trans fat content.

Reasons that this option is not appropriate include the fact that there are no analytical methods available to differentiate between ruminant and industrially-produced trans fats which result in foods containing ruminant trans fats being unfairly targeted. Industry would be required to calculate the trans fat content of their products to determine whether and how much the fiscal measure applies, and this would introduce an additional burden on the food industry.

- Labelling - Changing food labelling regulations to provide information to consumers about the trans fat content of the food was considered. This option was considered to not adequately achieve the desired outcome because it would only apply to packaged foods, and unpackaged foods likely to contain trans fats such, such as popcorn at a cinema, pies and pastries at a bakery etc would not be affected. This option could have a high burden on industry if all foods require changes to their labels (if a declaration in the NIP as required), not just those containing trans fats. This option was considered to be insufficient in protecting vulnerable populations because labelling interventions have been predicted to have minimal impact on reducing inequalities [49].

ASSESSMENT OF POLICY OPTIONS

An initial assessment of how well the proposed policy options would achieve the desired outcome of the work was undertaken. The analysis assessed the options in the following domains:

- Extent to which industrially-produced trans fats would be minimised or removed from the food supply;
- Extent to which consumption of industrially-produced trans fats can be reduced;
- Whether the option supports vulnerable populations;
- Feasibility considerations;

The initial analysis revealed that prohibiting use of partially-hydrogenated oils is most likely to achieve the objective of the work and have the least feasibility concerns. Stakeholders' feedback from this consultation will be used to better inform an analysis of the options and other options that are suggested by stakeholders can also be considered against these domains.

NET BENEFIT OF THE PROPOSED POLICY OPTIONS

The costs and benefits of the proposed options was assessed, including consideration for groups in the community that would be affected by each option and the economic, social and environmental impacts on them. At this point these costs and benefits are not quantified, however, information is sought through this consultation paper to assist in quantifying costs and benefits where possible.

Benefits - Reducing or eliminating industrially-produced trans fats in the food supply offers important health benefits to the population. These include reduced health care costs and productivity gains. The benefits of the proposed options are dependent on the extent to the option

successfully reduces or eliminates industrially-produced trans fats and how well the option protects vulnerable consumers.

A modelling study published in late 2020 [19] reported that in Australia, around 400,000 coronary heart disease deaths could be prevented, and around 100,000 health-adjusted life years could be gained over the population's lifetime if a legislative ban on industrial trans fats was introduced. The researchers predicted that the benefits of the legislative ban would be greater among socioeconomically disadvantaged groups and Australians living outside of major cities. The researchers estimated that a legislative ban on industrial trans fats would be cost saving or highly cost effective and could reduce health inequalities in the first 10 years after implementation.

Other studies internationally have reported reductions cardiovascular disease and inequalities through regulatory approaches [20, 21]. For example, Denmark was the first country to regulate to ban industrially-produced trans fats and saw mean energy intake from industrially-produced trans fats reduce from 1.1% energy to 0.1% energy in men and 1.0% energy to 0.1% energy in women between 1991 and 2007. During this period 11% of the decline in deaths from coronary heart disease was attributable to the ban on industrially-produced trans fats with the greatest attributable mortality falls seen in the most deprived quintiles of the population [17].

Costs - Aside from the status quo, all the proposed policy options have costs associated with them. Costs are born by Government, and industry. It is expected that costs to industry would be limited to minority of the industry and only affected manufacturers would bear this cost. For example, regulatory limits for industrial trans fats in processed foods and prohibiting use of partially-hydrogenated oils would only affect manufacturers that produce products containing industrially-produced trans fats. Other sectors of the industry would be unaffected.

Costs to Government would include costs associated with implementing a voluntary reformulation program, changing regulations, enforcement and monitoring.

PREFERRED POLICY OPTION

Based on the initial analysis undertaken, prohibiting use of partially-hydrogenated oils appears to offer the greatest potential to achieve the objective. Further evidence and costings provided through this consultation, and analysis of any alternate options proposed will be considered before any option is recommended to Food Ministers.

2. Introduction

2.1 Purpose of this paper

This policy options consultation paper has been prepared by the Food Regulation Standing Committee (FRSC) to support consideration by the Australia and New Zealand Food Ministers' Meeting (Food Ministers) of regulatory and non-regulatory options for improving the composition of the food supply in Australia and New Zealand in relation to industrially-produced trans fats.

This paper is based on the Australian Office of Best Practice Regulation (OBPR) (now Office of Impact Assessment (OIA)) *2021 Regulatory Impact Analysis Guide for Ministers' Meetings and National Standard Setting Bodies* [22] which outlines best practice for how Ministers' Meetings and their advisory committees should consider and analyse regulatory issues.

This paper seeks feedback from stakeholders about options for eliminating or reducing industrially-produced trans fats to the lowest level possible in the food supply, particularly to protect vulnerable population groups from the harmful effects of trans fats.

Questions for stakeholders are provided at the end of each section. In providing responses to the questions, stakeholders are asked to provide evidence and references to support their statements. Responses to the questions will be used to develop a Policy Paper with a preferred option to recommend to Food Ministers.

Food Ministers will consider FRSC's recommendation and make a decision on which option(s) to progress to eliminate industrially-produced trans fat in the food supply or reduce to the lowest level possible and protect vulnerable population groups.

Following a decision from Food Ministers, industry or government (depending on the preferred approach) would then undertake to introduce the preferred policy option(s).

2.2 Scope and terminology

Trans fats (also known as trans fatty acids or TFAs) are a type of fat found naturally in small amounts in ruminant animal products (e.g. butter, dairy and meat) (ruminant trans fats). Trans fats may also be produced through manufacturing processes when liquid vegetable and fish oils are partially-hydrogenated or hardened to create spreads such as margarines, cooking fats for deep frying and shortening for baking (industrially-produced trans fats).

Regulatory definitions of trans fat differ across the world. The Australia New Zealand Food Standards Code (Standard 1.1.2) defines trans fatty acids as "the total of unsaturated fatty acids where one or more of the double bonds are in the trans configuration", which captures all types of trans fatty acids regardless of whether naturally occurring or industrially-produced.

The CODEX Alimentarius definition [23] of trans fatty acids: "all the geometrical isomers of monounsaturated and polyunsaturated fatty acids having non-conjugated, interrupted by at least one methylene group, carbon-carbon double bonds in the *trans* configuration", differs as it excludes all isomers in the family of conjugated linoleic acid (CLA) which is mainly found in the milk and meat of ruminant animals such as cows, goats and sheep.

In recognition that the opportunity to reduce trans fats in the food supply is largely through reformulating foods to remove industrially-produced trans (i.e. partially-hydrogenated vegetable and fish oils), this paper focusses on industrially-produced trans fats.

The scope of this paper is focussed on industrially-produced trans fats in both packaged foods (e.g. supermarket items) and unpackaged foods¹ (e.g. items prepared and sold at outlets such as bakeries, cafes, restaurants and fast-food outlets).

It is also relevant to note in this paper, the following terminology:

- Compositional limits- regulatory limits on the amount of a nutrient in a particular food or food category.
- Voluntary reformulation- a process whereby the food industry may voluntarily change the composition of particular foods to improve its nutritional profile with or without Government leadership.
- Reformulation- a general term to refer to improved/modified food composition regardless of the approach to achieve this result (i.e. regulatory or voluntary).
- Eliminate- the paper uses the term 'eliminate' consistent with language used by the World Health Organization (WHO) REPLACE program which refers to eliminating industrially-produced trans fats from the global food supply. However, it is recognised that small amounts of industrially-produced trans fats may still be present in fats, oils and foods.

3. Background

In August 2019, the Australia and New Zealand Ministerial Forum on Food Regulation (the Forum, now referred to as Food Ministers' Meeting) agreed for the FRSC to explore options for setting compositional limits for certain foods and beverages. Compositional limits are one approach to improving the composition of the food supply, in addition to non-regulatory approaches such as voluntary reformulation.

As a first step in this work FRSC explored current approaches for improving composition of the food supply in Australia, New Zealand and internationally. FRSC prepared a Policy Paper which was presented to Food Ministers in November 2020. The paper [24] noted that compositional limits have been implemented internationally focussed on sodium and trans fats and voluntary actions are also underway in Australia and New Zealand and internationally to encourage industry to reformulate products to reduce risk nutrients such as sugar, sodium and saturated fat.

In this paper, FRSC assessed food and nutrient intakes in Australia and New Zealand and identified the foods that were major contributors to intakes of risk nutrients (i.e. sodium, saturated fat, sugars, trans fats) in Australians' and New Zealanders' diets. Taking this into account, and the reformulation activities already occurring in Australia and New Zealand, FRSC identified gaps in current actions to improve the composition of the food supply. These were:

- There are no organised voluntary reformulation activities underway in the fast food/quick service sector despite (pre COVID-19) trends for increasing expenditure in Australian and New Zealand on foods at restaurants and ready-to-eat items. Some products in these outlets have significantly high levels of risk nutrients, and there is considerable variability in levels of risk nutrients within product categories. There is limited industry-led action to improve food composition in this sector.
- There have been long running industry-led voluntary reformulation efforts to reduce the level of trans fats in the food supply. This has largely been successful, however, some food products still contain trans fats, at levels above international compositional limits in some instances and

¹ These items may be packaged at the point of sale, but do not meet the requirements for foods to bear a label as per 1.2.1-6 of the Australia New Zealand Food Standards Code.

vulnerable population groups in Australia may be exceeding recommended limits for intake of trans fats.

- There are voluntary efforts in place to reduce the sugar content of beverages such as soft drinks. However, industry is largely focussed on reducing average sugar content across the wider beverage category by producing more non-sugar beverages (e.g. water or artificially sweetened diet drinks) rather than reducing the sugar content of traditional 'full sugar' products. Despite reductions in consumption of sugary drinks, traditional 'full sugar' products are still more popular than diet drinks. International examples demonstrate that the sugar content of 'full sugar' beverages can be lower.
- Meat-alternatives are a food category that is growing in popularity. Sodium levels in some of these products are high and there is large variation in sodium content across the category. Limited industry led reformulation has been observed.

In response to this Policy Paper, Food Ministers agreed:

- Time be allowed for the food industry to demonstrate achievements against voluntary reformulation targets for sodium, saturated fat and sugar (in foods) before regulatory options are pursued. Progress against reformulation targets be assessed in 2 years to determine whether industry is on track to achieve the targets, or whether there are particular product categories where the industry's response is insufficient or ineffective.
- Additional voluntary reformulation targets be established for the quick service/fast food sector (sodium, saturated fat and sugar as appropriate), and for meat alternatives (sodium). If voluntary reformulation is not effective then further regulatory options could be considered through a coordinated systems approach.
- Given the outlined shortfalls in voluntary reformulation efforts for trans fats and sugary drinks, options should be explored to improve the composition of the food supply for these nutrients/food categories by progressing work through Food Regulation Policy Framework. These would be progressed as two separate pieces of work. These pieces of work would serve as case studies to inform the development of a systems approach in relation to food composition in Australia and New Zealand.

Food Ministers also agreed to a statement in relation to improving composition of the food supply (see [Appendix 1](#)). The statement is broad and recognises the need for a systems approach in improving composition of processed foods. The statement identified that trans fats would be used as one of two case studies for establishing a systems approach.

This policy options consultation paper focusses on the trans fat aspect of the work outlined above. This work will focus on the specific statement of the problem described for trans fats, considering the identified need for strategic, co-ordinated approaches to implement effective strategies across the food system. This approach is supported by evidence which indicates that multicomponent interventions achieve the biggest reductions in trans fat consumption across a population [25].

4. What is the problem

Trans fats (also known as trans fatty acids or TFAs) are a type of fat that occurs naturally in some animal products, or may be produced through industrial manufacturing processes.

Consumption of trans fats, even in small amounts, increases risk of coronary heart disease. The heart disease risk is higher for consumption of trans fat than other types of fat.

The WHO has had a major focus on eliminating industrially-produced trans fats from national food supplies, with the goal of global elimination by 2023. Many Governments internationally have taken action to eliminate or reduce industrially-produced trans fats in their food supply, with 60 countries

having mandatory trans fat elimination policies in effect as at December 2021 [11]. Such actions have not been implemented in Australia or New Zealand and previous voluntary efforts by industry to remove or reduce industrially-produced trans fats in the food supply have been undertaken. However, some food products in Australia have been found to contain trans fats at levels above what would be permitted internationally and there is limited information or support available to consumers in Australia and New Zealand to identify foods that contain trans fats and make informed decisions about their consumption. Trans fat intakes are within recommended limits for the majority of consumers in Australia and New Zealand, however evidence indicates [5, 6] vulnerable populations in Australia (i.e. those with low income or low education) may be exceeding trans fat consumption limits.

Recent changes in the global landscape, such as limited markets in which fats and oils containing trans fats foods can be sold, economic inflation and global cooking oil shortages mean that status of trans fats in the food supply in Australian and New Zealand may be changing and previous achievements may not be sustained.

The following sections provide more detail on this problem.

4.1 About trans fats

Naturally occurring trans fats are present in small amounts in products from ruminant animals such as cow, sheep and goat. These ruminant trans fats are produced through bacterial metabolism of polyunsaturated fatty acids in the rumen (a part of the digestive system). As a result of these bacterial processes, trans fats are present in all fats from ruminant animals (e.g. dairy and meat products). Levels of ruminant trans fat in animal products can vary depending on the feed of the animal and season, however the level of ruminant trans fat in products from ruminant animals generally does not exceed 6-8% of total fats [26, 27]. Ruminant trans fats are not able to be reduced by changes in food industry practices, however consumers can reduce intake of ruminant trans fats through actions such as choosing reduced fat dairy products, trimming fat from beef and lamb cuts, and using less ruminant ingredients (e.g. butter, cream etc) in mixed foods.

Trans fats can also be produced through manufacturing processes when liquid vegetable and fish oils are partially-hydrogenated or hardened to create spreads such as margarines, cooking fats for deep frying and shortening for baking. Industrial hydrogenation can produce concentrations of trans fats up to 40-50% total fat [27].

Industrially-produced trans fats may be present in foods such as margarines, spreads, baked goods (e.g. pies, pastries, doughnuts, biscuits, crackers), fried foods, fast-foods and pre-mixed products such as pancake or hot chocolate mix. The level of trans fats in foods varies depending on food ingredients used and the country in which the food is sold (due to differing national policies related to trans fats). It is possible for all of these products to be produced without trans fats through changes in food industry practices.

Foods can also contain a mix of ruminant and industrially-produced trans fats. There is no universally accepted analytical method to calculate the amount of ruminant and industrially-produced trans fats in foods separately [27].

4.2 Health risks of trans fats consumption

Trans fat intake is strongly associated with increased risk of coronary heart disease and related mortality. Trans fats have no proven health benefits. Compared to consumption of other fats, trans fats elevate the body's levels of LDL (bad) cholesterol and reduce HDL (good) cholesterol, and

increase the ratio of total cholesterol to HDL cholesterol which is a strong predictor of risk of coronary heart disease [1]. In addition, trans fats increase blood levels of triglycerides and Lp(a) lipoprotein and reduce the particle size of LDL cholesterol, which are all physiological factors that may further increase the risk for coronary heart disease [1].

Trans fats have a more adverse effect on the risk of coronary heart disease compared to saturated fats [28, 29] and there are clear associations between intake of trans fats and cardiovascular mortality [1, 30, 31]. Even small amounts of trans fats can be harmful, with every 2% of energy consumed from trans fats associated with a 23% increased incidence of coronary heart disease [1].

In addition, trans fats can increase inflammation in the body which is an independent risk factor for atherosclerosis, sudden cardiac death, diabetes and heart failure [1]. There is some evidence that trans fat increases the risk of other health conditions, including type-2 diabetes [28]. The health effects of ruminant and industrially-produced trans fat appear to be similar [9]. While there are some reports that industrial trans fats are more harmful than ruminant trans fats [26, 31], researchers note this association is likely due to lower consumption of ruminant trans fats, compared to industrial trans fats in study populations, resulting in insufficient statistical power to detect the effect of ruminant trans fats [9, 31].

4.3 Dietary advice in relation to trans fats in Australia, New Zealand and internationally

To reduce coronary heart disease risk, the WHO recommends no more than 1% of total energy intake should come from trans fats (from all sources), which translates to less than 2.3 g trans fat/day for a 8,700 kilojoule diet. The WHO recommends trans fats should be replaced with unsaturated fats [28].

The Nutrient Reference Values (NRVs) for Australia and New Zealand [29] recommend amounts of essential nutrients to avoid nutritional deficiencies, and also provide recommended intakes of macronutrients and micronutrients to lower chronic disease risk. The NRVs recommend saturated fat and trans fat combined should contribute to no more than 10% of daily energy intake [29].

Dietary Guidelines in Australia [32] and New Zealand [33] take into account the nutrient recommendations in the NRVs to provide food-based recommendations for healthy dietary patterns for meeting nutrient requirements, reducing the risk of diet-related chronic conditions and maintaining a healthy body weight. These Dietary Guidelines do not make specific recommendations about trans fat, but recommend limiting foods such as pastries, pies and fried foods all of which may contain industrially-produced trans fats. Meat and dairy are recommended foods in the Dietary Guidelines, however, lean meats and low fat dairy is recommended, a practice that would also reduce the ruminant trans fat content of these foods.

4.4 Trans fat intakes and associated health outcomes in Australia and New Zealand

Trans fat contribution to heart disease

Coronary heart disease is the leading cause of death worldwide, and in Australia and New Zealand [2, 7]. Excess trans fat (ruminant and industrial produced) consumption was estimated to cause 500,000 deaths worldwide each year representing 7.7% to global coronary heart disease mortality [11, 34].

The Global Burden of Disease Study reported that in 2019, diets high in trans fats accounted for 4.3% of all coronary heart disease deaths in Australia, and 3.3% in New Zealand. This is equivalent to 2,322 deaths coronary heart disease deaths in Australia and 502 coronary heart disease deaths in New Zealand. Diets high in trans fats accounted for 0.6% of the total burden of disease in Australia and 0.6% in New Zealand in 2019 [2]. The WHO ranks Australia as 16th in the proportion of coronary heart disease deaths due to trans fat intake (>0.5% energy), and New Zealand is ranked 24th [11].

Further modelling [6] has reported that 487 coronary heart disease deaths were attributed to trans fat exposure in Australia in 2010, equivalent to 1.52% of all coronary heart disease mortality.

Data on the impact of trans fats consumption amongst vulnerable population groups is limited. However, vulnerable population groups experience higher rates of coronary heart disease. For example, the aged-standardised rate of hospitalisations, deaths and total burden due to coronary heart disease were more than twice as high amongst Aboriginal and Torres Strait Islander people compared to non-Indigenous Australians [7]. Also in Australia, hospitalisations for coronary heart disease were 1.5 times higher for people in remote and very remote areas compared to major cities, and 1.3 times higher for the lowest socio-economic areas compared to the highest socio-economic areas [7].

In New Zealand, the 2021/2022 the New Zealand Health Survey found that ischaemic heart disease and/or heart failure was more likely for Māori and those living in the most deprived neighbourhoods compared with non-Māori and those living in the least deprived neighbourhoods respectively [8]. In New Zealand, the Crown has obligations and commitments under the Treaty of Waitangi/Te Tiriti to address this inequity and protect the health/hauora of Māori.

Consultation question 1- Are there any other estimates of the contribution of trans fat consumption to heart disease in Australia or New Zealand? Please provide references for your response.

Trans fat consumption

There is limited recent data on consumption of trans fats in Australia or New Zealand.

In a 2009 assessment by Food Standards Australia New Zealand (FSANZ) [3] the mean intake of industrially-produced trans fat was estimated at 0.6 g/day or less for New Zealand, based on intake data from the 1997 Adult National Nutrition Survey and 2002 Children National Nutrition Survey. For Australia, estimated intake of industrially-produced trans fats was 0.4 g/day, based on data from the 1995 National Nutrition Survey data and 2007 Children's Nutrition Survey. The higher intakes for New Zealanders reflected differences in trans fats in edible oil products. In both countries, mean total trans fat intakes were below 2 g/day and below 4g per day at the 95th percentile. Ruminant trans fats were the dominant source of trans fat in the diet, representing 60 to 75 % of total trans fat intake [3].

FSANZ estimated more than 85 % of New Zealanders and 90 % of Australians had trans fat intakes below the WHO recommendation of one percent of total energy intake.

For New Zealand consumers with total trans fat intake exceeding 1% percent of energy, pastry products and creamy style pasta dishes, as well as cheese, popcorn, doughnuts and take away style fish products, made a disproportionate contribution to trans fat intake.

For Australian consumers with total trans fat intake above 1% of total energy, pastry products, sausages and luncheon meats and creamy style pasta dishes contributed disproportionately to their high trans fat intakes.

More recent trans fat consumption data for New Zealand is limited because the 2008/09 New Zealand Adult Nutrition Survey did not measure intake of trans fats.

In Australia, the 2011/12 National Nutrition and Physical Activity Survey reported the average consumption of trans fats in Australia (population aged 2 years and over) was 0.6 % of energy intake, below the WHO recommended limit. Main sources of trans fat intake were cereal products and dishes (24.9%), meat, poultry and game products and dishes (23.2%), and milk products and dishes (24.2%), with the latter two categories likely to be predominantly ruminant trans fats [35].

Analysis of the 2011/12 Australian National Nutrition and Physical Activity Survey by the Sax Institute reported 10% of Australians exceeded the WHO recommended trans fat limit. Modelling also identified inequalities in trans fat consumption with estimates that 14% of those with the lowest level of income and 14% of those with the lowest level of education would exceed the WHO recommended limit [5]. A separate analysis[6] also reported that education and income were significantly associated with trans fat intake. Higher education and income is associated with lower consumption of trans fats.

More recent data on consumption of trans fats in Australia will be collected through the next Australian National Nutrition and Physical Activity Survey to be conducted as part of the Intergenerational Health and Mental Health Survey.

Consultation question 2- Is there further data on intake of trans fats in Australia or New Zealand, either at the population level, or population groups? Please provide references for your response.

4.5 Trans fat content of foods in Australia and New Zealand

In Australia, the Sax Institute [5] reports that in 2013, 75% of processed and takeaway foods surveyed from across Australia contained less than 2% of trans fats (as a percentage of total fat) (based on FSANZ data). This level of trans fat content is commonly used as a compositional limit internationally.

Twenty-five percent of processed and takeaway foods in the survey exceeded the 2% limit (noting that some of these products contained both industrially-produced and ruminant trans fats). When products likely to contain both ruminant and industrially-produced trans fats were excluded, (i.e. the analysis only focussed on industrially-produced trans fats) 14% of products surveyed exceeded the 2% limit.

The Sax Institute also compared the trans fats levels in Australian foods to international food composition data and reported that trans fat levels in products such as pastries, popcorn and baked goods were higher in Australia in 2013 compared to Canada (in 2010) or the United Kingdom (in 2013). Canada has since banned use of trans fats in the food supply, and best-practice measures to eliminate trans fats in the United Kingdom came into effect in 2021.

A separate analysis of the presence of trans fat containing ingredients in pre-packaged foods in Australia in 2018 reported that out of a total of 28,349 foods, 131 (0.5 %) products contained specific ingredients indicative of industrially-produced trans fats. A further 1,626 (5.7 %) products contained non-specific ingredients that may indicate the presence of industrially-produced trans fats. Bread and bakery products, cereal and grain products and confectionery were the top three food groups that contained specific ingredients indicative of industrially-produced trans fats [36]. This analysis indicates that a minority of products in Australian are using ingredients likely to contain industrially-produced trans fats, however, the analysis did not include unpackaged foods such as bakery products and fried foods which can also potentially contain trans fats.

In 2017, FSANZ and the New Zealand Ministry for Primary Industries provided a report to Food Ministers about trans fat levels in imported oils. The report found there had been a significant decline in the importation of vegetable fats and oils with the potential to contain trans fats into Australia and New Zealand. Levels of trans fats reported on product labels and industry specifications were also consistent with previous (2006-2013) trans fats analysis. The report concluded that this evidence indicates dietary intakes of trans fats have continued to reduce over time [37].

Recent changes in the global landscape may have also changed the level of trans fats in the food supply in Australia and New Zealand. Economic inflation as well as a shortage of cooking oil arising from the Russian and Ukrainian conflict may have led food manufacturers to source cheaper and/or alternate oils containing industrially-produced trans fats.

Stakeholders have raised concerns with the Australian Government Department of Health that foods such as margarines sold in remote community stores (predominantly attended by First Nation's Australians) are high in trans fats and have not been subject to reformulation efforts in the same way as margarines and other edible oils sold in mainstream supermarkets. The Australian Institute of Health and Welfare reports Australian First Nations populations already have greater dietary risks and higher rates of heart disease compared to non-Indigenous Australians [38], making this a key focus.

Current data

Analyses of the current market for products containing industrially-produced trans fat indicate that these products are present in the Australia and New Zealand market, albeit in small numbers. However this analysis may be an under-estimate of the total number of products containing industrially-produced trans fats because it is not a requirement to declare in the statement of ingredients whether an oil has undergone a process such as hydrogenation if a generic name for the oil (e.g. vegetable oil) is used. Further information on labelling requirements is at [Section 4.7](#) of this document.

New Zealand- Current data on foods declaring hydrogenated oils in the statement of ingredients is available for New Zealand through the GS1 On Pack Database. This database is an inventory of label information from ~ 50 000 (and counting) packaged food products that are or were available in the New Zealand market. The database predominantly includes food product information from the two major supermarket chains. The database represents over 90% of pre-packaged food retail sales from the grocery sector. It also has limited data from other retailers, such as liquor stores and specialty stores where there has been specified collection activity. Data comes into the database through the following channels:

- Physical product received by GS1 through [ProductFlow](#)
- Through an in-market collection programme (audit or in-market collection)
- Directly from the supplier (in select cases)

In October 2022, the database was searched for all foods seen in the New Zealand market in 2022 containing hydrogenated oils in the ingredients listing. Products declaring non-hydrogenated oils in the ingredients list were excluded from the analysis. From the search 234 products contained a hydrogenated oil, of which 212 were described as hydrogenated, 10 fully hydrogenated and 13 partially-hydrogenated. The majority of hydrogenated oils were listed as coconut oil (n=131), followed by vegetable oils (n=45) and palm oil (n=25). The majority of partially-hydrogenated oils were palm oil (54%). When analysed by food category, 39% of products containing a hydrogenated

oil were confectionary/sugar sweetening products; 26% bread/bakery products (biscuits, baking mixes, sweet products); and 25% prepared/preserved foods (desserts, snacks, pasta, meat substitutes).

Australia- A search of food and drink products declaring hydrogenated oils in the statement of ingredients in the Australian market was conducted using the Mintel Global New Product Database (GNPD) [39]. The search term 'hydrogenated oil' was used as a cross check to ensure all products were captured, and products containing non-hydrogenated oils were excluded from the analysis. Search dates between October 2020-2022 were selected. It is important to note that products included in this date range are only new or reformulated products. The Mintel GNPD only focuses on new products entering the market and does not have the functionality to search for products pre-existing in the market within the search dates. The Mintel GNPD focusses data collection in major cities and thus results are not reflective of the overall market of products in Australia.

149 products were identified and 33 products included a trans fat declaration in the NIP. Of these, 17 products contained trans-fat and declared the amount in the NIP and 16 products declared 0g of trans-fat in their NIP. The remaining 116 products did not include a trans-fat declaration in the NIP. Of the total 149 products identified in the search 1 product declared partly hydrogenated oil in the statement of ingredients, and 11 products declared full or fully hydrogenated oil in the statement of ingredients. The remaining 137 products did not specify level of hydrogenation and simply declared hydrogenated oil in the statement of ingredients. The most common types of hydrogenated oils declared in the statement of ingredients were vegetable oil (type not further specified) (n=54), palm oil (n=35), coconut (n=24) and palm kernel oil (n=14). Fifteen products contained a mix of hydrogenated oils such as palm kernel, palm and rapeseed oil or palm and coconut oil.

Globally- The WHO has also indicated that it has collected nutrient data for trans fats in 2020 for the five top-selling products in the world's largest food and beverage companies. Data were collected across 8 food product categories and in 14 countries, including Australia. The data collection process is ongoing with a final report with aggregate and/or anonymized company results will be published later in 2023 [11].

Consultation question 3- Food manufacturers- Do you have additional data on trans fat content of foods in Australia or New Zealand? Data for individual foods and food companies will not be published.

4.6 Limitations of actions underway in Australia and New Zealand to support consumers to limit consumption of trans fats

Activities exist to support consumers in Australia and New Zealand to limit their intakes of trans fats, however these tend to focus on general healthy eating, rather than trans fats specifically. Examples include Healthy School Canteen Guidelines, social marketing campaigns and health promotion activities. Information on food and nutrition actions that more specifically relate to trans fats are provided below.

Food labelling approaches

REQUIREMENTS IN THE AUSTRALIA NEW ZEALAND FOOD STANDARDS CODE

Food labelling requirements are set out in the Australia New Zealand Food Standards Code (the Food Standards Code) which is maintained by FSANZ. In Australia, the Food Standards Code is enforced by state and territory governments and the Department of Agriculture, Water and the Environment for

imported foods. In New Zealand, the Food Standards Code is enforced by the Ministry for Primary Industries.

On a food label, information about a food's composition is available through the Nutrition Information Panel (NIP) and statement of ingredients which is mandatory for most packaged food products.

In the NIP, mandatory declarations are required for energy, total carbohydrate, sugars, total fat, saturated fat and sodium. A declaration of trans fat content is not required in the NIP, unless the product makes a nutrition claim about cholesterol, polyunsaturated fats or monounsaturated fats in the food. Some manufacturers may also voluntarily declare trans fat content in the NIP. Consumers may also contact food manufacturers with queries about ingredients in specific foods if they have concerns.

The statement of ingredients requires ingredients to be listed in descending order by ingoing weight. The statement of ingredients must identify each ingredient, using either the common name, a name that describes the true nature of the ingredient or a generic name specified in the Food Standards Code. Under Standard 2.4.1-4 process declaration for edible oils, if a food contains edible oils, and the label lists the specific source name of the oil, and the oil has undergone a process that has altered its fatty acid composition (such as hydrogenation), then a process declaration is required on the label which describes the nature of that process. However, there is no explicit requirement to declare the degree of hydrogenation (i.e. partially vs fully hydrogenated) and no requirement to declare whether oils listed using a generic name (e.g. vegetable oil) have undergone hydrogenation. Consumers with high-level nutrition knowledge may be able to determine that a product is likely to contain industrially-produced trans fats by identifying ingredients such as 'partially-hydrogenated canola-oil', or 'hydrogenated palm oil'.

Some products that may contain industrially-produced trans fats, such as pastries, popcorn and fried food can be sold unpackaged and therefore not required to be labelled. For unpackaged foods, some nutrition and ingredient information may be requested from the food manufacturer. However, as trans fats are not part of the mandatory labelling declarations, manufacturers may not know this information.

This lack of information about trans fats on food labels in Australia and New Zealand makes it difficult for consumers to choose foods with low/lower trans fat levels.

ADDITIONAL VOLUNTARY LABELLING OPTIONS OUTSIDE OF THE CODE.

Voluntary labelling outside of the Code is limited in relation to trans fats. A food's trans fat content is not considered in the Health Star Rating (HSR) front of pack labelling system in Australia and New Zealand².

Online provision of information on trans fats

Government information- FSANZ maintains the Australian Food Composition Database. Information on total trans fat content of foods is available on this database, determined by imputation rather than analytical methods [40]. Some of the information available is brand and product specific, for

² The HSR rates the overall nutritional profile of packaged food and assigns it a rating from ½ a star to 5 stars. It is designed to provide a quick, easy, standard way for consumers to compare similar packaged foods. Under the HSR system, packaged products are given a rating based on their nutritional profile, according to a strict algorithm. The algorithm considers: energy (kilojoules); risk nutrients - saturated fat, sodium (salt) and sugars; and positive components - dietary fibre, protein and the proportion of fruit, vegetable, nut and legume content.

example, a specific breakfast cereal, while other information is generic, for example 'pastry, shortcrust style, commercial, baked'. The Database is generally not intended for a consumer audience and is technical in nature. As information is not available for every food on the market, the Database does not support consumers to compare products and select products with low or no trans fats.

The New Zealand Food Composition Database is jointly owned by Plant and Food Research and the New Zealand Ministry of Health [41]. The majority of the entries in the New Zealand Food Composition Database have been analysed in New Zealand with a smaller percentage of data coming from other sources, such as recipe calculations or by borrowing from other countries. Data on total trans fat content of 1,185 foods is available from this database (43% of foods in the database), brand and product specific information is available for some foods, however most of the entries are generic. Data is reported for total trans fat, rather than ruminant and industrially-produced trans fats. Like Australia, this does not support consumers to identify foods containing trans fats and select products with low or no trans fats.

Industry information- Food industry has previously (in 2009) reported activities to inform consumers about trans fats such as provision of nutrition information on product packaging, in stores and/or on company websites. However more recent industry activities in this area is not known.

Consultation question 4a- Is there any data available on the number or proportion of products that declare trans fat content in the Nutrition Information Panel for Australia and/or New Zealand?

Consultation question 4b- Is there any data available on the number or proportion of products that declare hydrogenated oils in the Statement of Ingredients for Australia and/or New Zealand?

Consultation question 4c- Food manufacturers- what information do you provide to consumers about the trans fat content of your food products?

4.7 Reformulation activities to reduce trans fat in foods in Australia and New Zealand

Regulatory approaches

There are no regulatory approaches in place in Australia or New Zealand to eliminate partially-hydrogenated oils or reduce trans fats in the food supply.

Part 2.4 of the Australia and New Zealand Food Standards Code relates to edible oils (Part 2.4.1) and edible oils spreads (Part 2.4.2). Under this part of the Code there are compositional requirements for edible oils spreads to contain vitamin D (applies to Australia only), however, there are no compositional limits for trans fats.

Voluntary reformulation

In Australia and New Zealand there is a history of non-regulatory efforts to work with food industry to voluntarily reduce industrial trans fat in the food supply. The Australia and New Zealand Collaboration on Trans Fats was established in 2007 to support and broaden existing initiatives to manage trans fats in the food supply. The Collaboration included membership from Government, food industry and public health groups in Australia and New Zealand.

Activities undertaken by the Collaboration included roundtables on trans fats in quick service restaurants, with the broad aim to minimise use of trans fats in quick service meals while not inadvertently impacting saturated fat content. In 2009, FSANZ undertook surveys with Australian and New Zealand quick service restaurants to measure progress in voluntarily reducing trans fats in

the food supply. The survey indicated that the quick-service industry (and their stakeholders such as suppliers of products such as oils and chips) had been proactive in reducing the levels of trans fats in their products. Several Australian companies reported they had reduced trans fat levels to less than 0.5g per 100g of food. The main approaches used by the quick-service industry to reduce trans fats were eliminating or reducing the use of hydrogenated fats or oils, substituting oils high in trans fats with oil blends containing very low levels of trans fats, using oven-baking rather than deep-frying for cooking, and increasing education and awareness about how ingredient manufacturers can reduce trans fats in their products.

The survey identified the higher costs of oils low in trans fats was a barrier to some companies reducing trans fat in their products. The survey also identified progress in moving towards healthier oil solutions had been hampered by the 2007-08 world economic crises, and that in times of economic downturn, voluntary initiatives such as trans fat reduction may not be prioritised due to the higher costs of low trans fat oils. This finding is relevant to consider in relation to the economic impacts of the COVID-19 pandemic and inflationary pressures. In fact, one major driver of increased food prices has been increased cooking oil prices caused by oil shortages associated with war (Ukraine and Russia supply most of the world's sunflower oil) and supply shortages associated with impacts of COVID-19.

In 2009, FSANZ reviewed the outcome of non-regulatory measures to reduce trans fats. The 2009 review found that intakes of trans fats from manufactured sources had decreased in Australia and New Zealand by around 25 to 45 % since 2007, reflecting changes in industry practice. This decline is equivalent to around 0.1 % of total energy intake. FSANZ recommended to Food Ministers that non-regulatory measures to reduce trans fats in the food supply should continue [42]. This recommendation was based on evidence of the effectiveness of non-regulatory approaches in leading to a decline in intakes of trans fats from manufactured sources in both Australia and New Zealand, and that mean consumption of trans fats in the Australian and New Zealand populations was within WHO recommendations.

It is not clear whether the industry efforts made over 2007-2009 to reduce trans fats have been sustained. Trans fat reformulation is not included in the Australian Healthy Food Partnership reformulation program or the New Zealand Heart Foundation's reformulation program.

More recent surveys of food industry practices have been undertaken through the INFORMAS network, a global network of public-interest organisations and researchers that aim to monitor, benchmark and support public and private sector actions for establishing healthy food environments. A survey [43] of 19 of Australia's largest food and beverage companies identified that 16 companies had reported some action or made some commitments to reformulate their products to reduce levels of nutrients of concern (as at 31 December 2017). Across the food companies assessed, the most common reformulation targets were for a reduction in sodium and saturated fat (8 out of 16 companies), trans fat (7 out of 16 companies), sugar and portion size of single-serve products (6 out of 19 companies).

The same survey was undertaken amongst Australian quick-service restaurants [44] and supermarkets [45] where lower levels of commitment to reformulation were identified. Amongst quick-service restaurants, five out of eleven restaurants were identified as having taken some action to reformulate menu items to reduce levels of nutrients of concern (as at 31 December 2017). The most common areas for reformulation were sodium (5 out of 11 companies), fat and sugar (five out of eleven companies), followed by trans fat (3 out of 11 companies).

This survey was also undertaken with New Zealand food and beverage manufacturers, supermarkets and quick service restaurants [46]. The results reported that 5 out of 25 companies (including three quick service restaurants) had not set reformulation targets for any nutrient. Only one company had set SMART³ reformulation targets for all nutrients of concern (sodium, saturated fat, trans fat and added sugars). The report of the survey did not detail how many companies had set reformulation targets for trans fats.

Consultation question 5a- Food manufacturers- what reformulation activities have you undertaken in the last 10 years to reduce the use of trans fats/partially-hydrogenated vegetable or fish oils?

Consultation question 5b- Food manufacturers- What has been the impact of cooking oil price increases and supply shortages on your products? What alternate oils are being used?

4.8 International action to reduce trans fats

REPLACE program

Elimination of trans fats in the food supply is one of the ‘best buys’ for prevention of non-communicable diseases recommended by the WHO [10]. The WHO reports that the elimination of industrially-produced trans fats from the food supply is feasible, achievable and a cost effective intervention to prevent cardiovascular disease. In 2018, the WHO established the ‘REPLACE’ program to support member states to eliminate industrially-produced trans fats from the global food supply by 2023. REPLACE provides evidence based technical information and aims to accelerate the elimination of industrially-produced trans fats by providing governments with strategic action areas that support the prompt, complete, and sustained elimination of trans fats from the food supply.

In 2019 the WHO announced six ‘REPLACE modules’ to provide a practical step-by-step guidance for countries to implement best-practice policies to eliminate industrially-produced trans fats from the food supply. The six action areas are:

- **Review** dietary sources of industrially-produced trans fat and the landscape for required policy change.
- **Promote** the replacement of industrially-produced trans fat with healthier fats and oils.
- **Legislate** or enact regulatory actions to eliminate industrially-produced trans fat.
- **Assess** and monitor trans fat content in the food supply and changes in trans fat consumption in the population.
- **Create** awareness of the negative health impact of trans fat among policy-makers, producers, suppliers, and the public.
- **Enforce** compliance with policies and regulations.

In late 2020 [47], the WHO announced it will introduce a new WHO certification Program for trans fat elimination which aims to recognise countries that have eliminated industrially-produced trans fats from their national food supplies. To qualify for certification, countries must demonstrate that a best-practice trans fat policy has been implemented and that effective monitoring and enforcement systems are in place.

Through the ‘REPLACE’ program, the WHO also monitors and reports country’s efforts in eliminating industrially-produced trans fats [48]. For countries that have taken action, a range of activities are being undertaken including legislative bans on partially-hydrogenated oils, mandatory limits on

³ SMART targets are specific, measurable, achievable, relevant and time-bound.

industrially-produced trans fats in foods, voluntary reformulation, national policy commitments to eliminate trans fats, mandatory declaration of trans fat on nutrition labels, excise tax on food products that contain trans fats, and a front-of-pack labelling system that includes trans fat content [14].

The WHO considers that 'best-practice' policies for trans fat elimination are a mandatory national limit of 2 g of industrially-produced trans fat per 100 g of total fat in all foods; and a mandatory national ban on the production or use of partially-hydrogenated oils as an ingredient in all foods [11].

WHO reports [11] that 43 countries have implemented best-practice trans fat policies that either virtually eliminate industrially-produced trans fats, or ban partially-hydrogenated oils, protecting 2.8 billion people. The WHO reports [12] that elimination of industrially-produced trans fats is predicted to save 17.5 million lives globally over 25 years and reduce health care costs [12].

The 2019 [13], 2020 [14], 2021 [12] and 2022 [11] monitoring reports from the 'REPLACE' program identify Australia and New Zealand as having 'missing data' on implemented policies for trans fat elimination. Recently, Australia has been identified as one of nine countries with the highest estimated proportion of coronary heart disease deaths caused by trans fat intake, which does not have a best-practice policy in place in relation to trans fats [15].

The WHO notes that countries that have not taken action to address trans fats in the food supply may see an increase in the burden of trans fats as manufacturers selling products containing trans fats search for markets that still allow food products containing trans fats [11, 12]

Monitoring protocol

The WHO has developed a global protocol for measuring fatty acid profiles of foods, with an emphasis on monitoring trans-fats originated from partially-hydrogenated oils [27]. The goal of the protocol is to support the development of accurate and globally comparable fatty acid data particularly for trans fats originating from partially-hydrogenated oils and ruminant animals fats (lard and tallow).

The protocol is applicable to:

- crude partially-hydrogenated oils, refined partially-hydrogenated oils and fully-hydrogenated oils,
- all types of processed and ready-to-serve foods prepared using partially-hydrogenated oil,
- foods prepared using a mixture of partially-hydrogenated oils and ruminant fats.

The analysis of foods containing ruminant trans fats, such as dairy and meat products is outside the scope of the protocol. However, analysis of products prepared using a mix of partially-hydrogenated and ruminant trans fats is within scope of the protocol.

The protocol is also not intended for the analysis of partially-hydrogenated fish oils or processed foods containing partially-hydrogenated fish oils, because these oils are not used globally and in countries where they are used, their use is decreasing.

Due to discrepancies between methods adopted by laboratories conducting trans fat analysis and the WHO protocol, a revised two-pronged approach is being developed. There will be a simple, fit-for-purpose protocol released in 2023 for the immediate needs of countries (specifically those with limited resources) and a full version of the protocol will be developed through expert consultation which will be a reference method that can be used by countries with sufficient resources [11].

CODEX Alimentarius

The CODEX Alimentarius Commission is the international food standard setting body established by the WHO and Food and Agriculture Organisation (FAO). International food standards, guidelines and codes of practice contribute to the safety, quality and fairness of this international food code. Codex standards are recognised by the World Trade Organization (WTO). As WTO members, Australia and New Zealand are obliged, where possible, to harmonise domestic regulations with Codex standards. FSANZ takes Codex standards into account when developing and revising domestic food standards.

Over recent years, CODEX sub-committees have considered various issues in relation to trans fats, such as methods for measuring trans fats in foods, labelling 'free from' claims and approaches to support work to reduce trans fats or eliminate partially-hydrogenated oils. Separate discussion papers are being considered for the Codex Committee on Labelling and Committee on Fats and Oils on possible new work on approaches to support reducing trans fats or eliminating partially-hydrogenated vegetable oils.

Legislative approaches

The WHO reports that 60 countries have introduced some form of legislation to eliminate trans fat from the food supply [11], including 43 countries adopting best practice policies, protecting 2.8 billion people (36% of the global population).

Details on policies these countries have implemented are provided at [Appendix 2](#). Depending on the approach taken, countries have either established mandatory limits for industrially-produced trans fats to 2% of oils and fats in all foods and/or have banned the use of partially-hydrogenated oils (PHO).

Denmark was the first country to restrict industrially-produced trans fat in the food supply in 2004. Evaluations of this work report that trans-fat were reduced to non-significant levels in the food supply which contributed to decreased cardiovascular mortality rates [49–51]. A recent evaluation of Denmark's mandatory trans fat limit reported that it accounted for 11% of the reduction in coronary heart disease deaths observed between 1991 and 2007, with the most deprived population groups benefiting the most from the policy thus reducing inequalities [17].

In New York State restrictions on use of ingredients containing trans fats in fast-food outlets were associated with a 4.5% reduction in cardiovascular disease mortality per year [52]. Counties in New York State with restrictions on industrially-produced trans fat recorded a 7-8% greater decrease in hospital admissions for heart attacks between 2007 and 2013 than counties without trans fat restrictions [48].

There are limited other data available on the impacts on cardiovascular disease or coronary heart disease as a result of legislative approaches to restrict industrially-produced trans fats. As most of these legislative actions have occurred recently, more time is required for the impacts of these actions to be observed.

Legislative approaches have been reported to have minimal financial impact on the food industry. Evaluations have also reported industry has not replaced trans fat in foods with saturated fats, but with unsaturated fats which is preferred [25].

Labelling approaches

Some countries have introduced mandatory or voluntary labelling of trans fats on food labels, which may encourage the food industry to reformulate their products to reduce trans fat content. One of

the limitations of labelling approaches is that it only applies to packaged foods, and therefore consumers' access to information on the trans fat content of foods sold at restaurants, cafes and take-away outlets is limited. Labelling has been reported to be no more than half as effective as a total ban on trans fats in relation to health and socioeconomic benefits [25].

Canada was the first country to require labelling of trans fat content on the mandatory Nutrition Facts table. These regulations came into effect in late 2005 with a longer transition period for small companies (labelling required by 2007). Labelling regulation accompanied by consumer concern about trans fats saw many companies work to reduce trans fats in their products. However, Canada has since recognised that labelling alone was insufficient to effectively eliminate industrially-produced trans fats in processed foods [53] and in 2018 introduced a ban on partially-hydrogenated oils [12].

Similarly, the United States introduced mandatory labelling of trans fat content (industrial and ruminant) in 2006. Labelling is required for foods containing 0.5g trans fat or more per serving and when claims are made regarding fat, fatty acids or cholesterol [54]. In 2018, the United States banned the use of partially-hydrogenated oils [12].

Other countries, including Mexico and Bolivia use labelling approaches to complement other policies such as mandatory limits on industrially-produced trans fats, or reformulation activities [11]. Few countries apply trans fat labelling as the only measure address health risks associated with trans fats, namely China and Israel [11]

Voluntary approaches

Some countries have implemented voluntary reformulation activities to reduce trans fat in the food supply. However, this is reported to be far less effective than legislative actions. For example, voluntary efforts to reduce trans fat consumption in New York City involving asking restaurants to use other products had no impact after one year of implementation. In six south-eastern European countries, high concentrations of industrially-produced trans fats were present in products such as biscuits, wafers and cakes after two years of voluntary trans fat reduction. In addition, voluntary reformulation has been associated disproportionate reductions in trans fat levels across food categories [55].

Some countries have reported positive outcomes from voluntary measures to reduce trans fat in the food supply. For example, in 2007, Health Canada gave the food industry a two-year period to reduce trans fats to recommended levels, and if this was not achieved then regulations would be introduced to enforce the limits. Companies and food manufacturers were encouraged to replace trans fats with healthier ingredients, such as monounsaturated and polyunsaturated fats, rather than saturated fats. Monitoring data revealed that a number of food manufacturers reduced the trans fat levels in their products to below the recommended levels [54].

It has been reported that the voluntary reformulation efforts in Canada, in addition to consumer awareness activities and mandatory labelling, resulted in a reduction in trans fat consumption. This has been assessed through measuring trans fat concentration in breast milk samples collected in 2009, 2010 and 2011 from breastfeeding mothers in ten major cities across Canada (trans fat content of breastmilk reflects the women's trans fat consumption on the previous day) [56].

Voluntary reformulation efforts in the United Kingdom (via the Public Health Responsibility Deal pledge introduced in 2011) and the Netherlands (via the Dutch Taskforce for the Improvement of the Fatty Acid Composition launched in 2003) have contributed to reductions in population trans fat

consumption. However, certain segments of the population continued to consume trans fats above the recommended levels [57].

It should be noted that despite the reductions in trans fat consumption associated with voluntary reformulation, Canada, the United Kingdom and the Netherlands have all now introduced legislative measures to eliminate trans fats from the food supply, in line with best practice recommended by the WHO [11].

Industry Commitments

In April 2019, the Director-General of WHO issued a statement calling on fats, oils, and food and food service industries to reformulate foods to eliminate industrially-produced trans fats and increase use of alternatives low in saturated fats. In response, in May 2019, member companies of the International Food and Beverage Alliance have committed to not exceed 2g of industrially-produced trans fats per 100g of fats and oils in products across the world by 2023. Companies in this alliance represent around 13% of global packaged food sales, which means close to 90% of global food sales are not included in this industry commitment [14]. These companies have indicated that wherever possible they would ensure that reformulation efforts to meet this commitment do not result in increases in the foods' saturated fat content. The WHO and Access to Nutrition Initiative have commenced monitoring of company's progress against this commitment [11].

WHO notes that suppliers of edible oils and fats have been much slower than food manufacturers to respond to calls to remove industrially-produced trans fats from their products, but notes one major edible oil supplier has committed to achieve WHO best-practice trans fat policies by the end of 2023 [11].

5. Why is Government action needed?

Government consideration of this issue is important to improve health outcomes in an equitable way and bring Australia and New Zealand into line with achievements made internationally in relation to eliminating industrially-produced trans fats. The sections above identified that industry actions have largely been effective in reducing trans fat levels in the Australian and New Zealand food supply. Despite these actions, some foods continue to have high levels of trans fats and vulnerable population groups are at greater risk of excess trans fat consumption.

Government action on this issue is needed to:

- protect population groups vulnerable to higher intakes of trans fats;
- cement and sustain reformulation achieved through industry efforts;
- reach foods/manufacturers where voluntary industry efforts have not been realised;
- create a level playing field between industry sectors who have and have not taken efforts to remove trans fats from their products;
- prevent 'dumping' of products high in trans fats on Australia and New Zealand, due to manufacturers being unable to sell these products in other markets.

5.1 Objectives

Under the Overarching Strategic Statement for the Food Regulatory System, the aims of the food regulatory system are:

- Protecting the health and safety of consumers by reducing risks related to food;
- Enabling consumers to make informed choices about food by ensuring that they have sufficient information and by preventing them from being misled;

- Supporting public health objectives by promoting healthy food choices, maintaining and enhancing the nutritional qualities of food and responding to specific public health issues; and
- Enabling a strong sustainable food industry to assist in achieving diverse, affordable food supply and general economic benefit.

Improving the composition of the food supply in relation to trans fats is related to the first and third objective of the Food Regulatory System.

Taking into account the description of the problem outlined above and the aims of the food regulation system, FRSC proposes objective of this work is as follows:

Industrially-produced trans fats have been eliminated or reduced as much as possible from the food supply in Australia and New Zealand to support all population groups to minimise consumption of trans fats. industrially-produced.

Consultation question 6- Do you agree with the proposed objective of this work? If not, what is your proposed alternative?

6. Policy options

To achieve the desired outcome, three policy options have been identified, however, this consultation paper also seeks stakeholder views on whether there are any other suitable options that could be considered to achieve the desired outcome. The options identified are:

- Voluntary reformulation
- Regulatory limits for industrial trans fats in processed foods
Prohibiting use of partially-hydrogenated oils in processed foods

These options are not necessarily mutually exclusive, more than one option could be pursued.

These policy options, including strengths and weaknesses (compared to the status quo) and risks and limitations are described in detail below. It is relevant to note that this paper is only focussing on policy options. Implementation details for the preferred policy option would be determined in due course.

Consultation question 7 - Are there additional policy options that should be considered? Please provide rationale and the benefits and risks of your suggested option.

6.1 Status Quo

Description

Section 4.6 and 4.7 describes the status quo in relation to government and industry action on trans fats in Australia and New Zealand. Essentially, there are no regulatory actions on trans fats and limited information available to consumers on the trans fat content of foods. Voluntary actions to reduce trans fats is undertaken by industry. However, voluntary industry action has not been co-ordinated or monitored in some time and it is not known whether voluntary efforts initiated pre-2010 have been sustained.

Strengths and weaknesses compared to status quo

N/A

Risks and limitations

Maintaining the status quo confers the following risks:

- With economic impacts associated with COVID-19 restrictions and inflation, businesses may seek to use cheaper oil alternatives which contain trans fats.
- Some products on the market in Australia and New Zealand may continue to have trans fats content above international limits, with consumers unable to make informed choices about these foods due to lack of label information.
- Sectors of the population may continue to exceed WHO recommendations for consumption of trans fats.
- With increasing legislative action internationally to eliminate industrially-produced trans fats from foods, there is the potential that countries such as Australia and New Zealand with no legislative action, no labelling of foods' trans fat content, and no monitoring of trans fats in foods, become saturated with ingredients or products that cannot be sold in other markets.

Consultation question 8a- Are the risks and limitations associated with the status quo described appropriately?

Consultation question 8b- Are there additional risks that have not been identified?

6.2 Voluntary reformulation

Description

Under this option, voluntary reformulation targets for industrially-produced trans fats or use of partially-hydrogenated oils could be established through existing reformulation programs such as the Healthy Food Partnership in Australia (Government led). Reformulation to reduce trans fat content of food does not change its taste or cost [12].

Targets could be established for specific food categories that are high in trans fats, reflecting the nature of the food (for example foods that predominantly contain industrially-produced trans fats). Targets could be set on international limits to support trade, for example ≤ 2 g of industrially-produced trans fat per 100 g of total fat in the food.

This option can specifically target foods categories that are potentially high in industrially-produced trans fats, including foods that do not require a label.

Industry could be invited to commit to meeting these targets over a specified period of time, e.g. 2-4 years. Consideration would need to be given to establishing a combined trans fat and saturated fat reformulation target for specific food categories to ensure that trans fats are not replaced with unhealthy saturated fats.

Success of this option relies on strong industry participation, otherwise consumers may still be exposed to trans fats through foods that have not been reformulated. If widespread reformulation occurs, then consumers would have access to the reformulated products without needing to change their behaviour.

As with other reformulation programs, this option would likely focus on domestic manufacturers and is unlikely to engage international manufacturers who import foods or edible oils into Australia and New Zealand. It has been predicted that voluntary reformulation approaches may have a modest impact on reducing inequalities [16].

Monitoring would likely rely on industry reporting. Unless trans fat/partially-hydrogenated oils were declared on a food label or chemical analysis of foods was commissioned (which would not be able to separately quantify industrially-produced vs ruminant trans fats) it would be difficult to independently monitor whether industry is meeting the voluntary reformulation targets.

Compared to legislative approaches, this option would be simpler to implement because legislative change is not required. This approach is also more flexible than legislative approaches, with the potential to easily update reformulation targets if required. Unlike legislative approaches, there are no trade implications associated with this option.

International examples

Voluntary reformulation efforts in Canada, the United Kingdom and the Netherlands have contributed to reductions in population trans fat consumption. However, certain segments of the population continued to consume trans fats above the recommended levels [57] and these countries have since implemented mandatory limits for trans fats in oils and all foods.

Countries reported to have voluntary reformulation for trans fats in 2022 include Azerbaijan, Republic of Korea, Oman, Jordan, Brunei Darussalam, Tajikstan and Tunisia [11].

Strengths and weaknesses compared to status quo⁴

Strengths	Weaknesses
Can re-ignite efforts established previously through the Australia and New Zealand Collaboration on Trans Fats.	Burden on Government to establish and maintain reformulation targets, engage industry and monitor implementation.
May achieve reductions in trans fat content for reformulated foods.	Industry may replace partially-hydrogenated oils with saturated fats unless appropriate saturated fat targets accompany the trans fat reformulation targets.
	Burden on industry to reformulate their products and analyse trans fat content of foods to report on whether reformulation targets have been achieved.

Risks and limitations

- Commitment to voluntary reformulation targets may not reach desired levels. Resulting in minimal impact on trans fat levels in foods. Voluntary action to eliminate trans fats from the food supply has been found to be less effective than mandatory actions [58].
- The supply chain constraints coupled with the financial climate post COVID-19 may impact manufacturers' ability and appetite to reformulate to lower trans fats options and may mean more affordable and available oil alternatives (which contain trans fats) will be used.
- Potential that reformulation in response to trans fat labelling requirements could see trans fats being replaced with saturated fats. While saturated fats are less dangerous than trans fats, it is still recommended that consumption of saturated fats be limited. However, healthier options to replace trans fats exist and are being used by industry [12].
- Not all food manufacturers may commit to voluntary reformulation resulting in disproportionate reductions in industrially-produced trans fat across the food supply. In this case, consumers would not be able to identify foods that have lower levels of trans fats unless this option was accompanied by labelling approaches.
- Does not avoid the potential for the Australia and New Zealand markets to become saturated with ingredients and products high in trans fats that cannot be sold in other markets.

⁴ Note these are strengths and weaknesses compared to the status quo, not compared to other options.

Consultation question 9a- Are the risks and limitations associated with Option 6.2 described appropriately?

Consultation question 9b- Are there additional risks and limitations that have not been identified?

Consultation question 9c- Food manufacturers- How likely are you to be involved in this voluntary reformulation program? How many products are likely to be reformulated?

Consultation question 9d- Food manufacturers- how would this option impact you (include cost estimates where available)? What would be a suitable time frame for this option to be implemented in your organisation.

Consultation question 9e- What implementation issues need to be considered for this option?

6.3 Regulatory limits for industrially-produced trans fats in processed foods

Description

Under this option, a mandatory limit such as 2g of industrially-produced trans fats per 100g total fat could be introduced for all foods. This would effectively minimise or eliminate industrially-produced trans fats from the food supply and reduce consumption to non-significant levels[59].

The approach is considered by the WHO to be one of the best practice policies for eliminating industrially-produced trans fats from the food supply. Under the Australian National Obesity Strategy, Strategy 1.4 includes example actions to work through the food regulatory system to support healthy food and drink choices such as compositional limits for risk-nutrients including trans fat.

This option is feasible given healthier replacement oils are available, and are reported not to change the taste of the food or the cost to the consumer and food manufacturers have been successfully removing trans fats from their products in international markets [12].

This would support equity as it can reach groups of the population at greater risk of exceeding recommendations for consumption of trans fats. This option does not require consumer behaviour change, or consumers having the knowledge and skills necessary to identify foods containing industrially-produced trans fats and make healthy informed choices. Compared to voluntary approaches, mandatory product reformulation has been predicted to have the greatest benefits for equity [16, 17, 58].

While this regulatory limit would apply to all foods, the majority of products in the food supply contain no or low levels of trans fats, and therefore this regulatory change would be expected to affect a minority of manufacturers. This will help to create a level playing field and cement the achievements made by many manufacturers in reducing trans fats in foods.

This option would need to be accompanied by industry education to support industry to reformulate their products to meet the new regulations and ensure industrially-produced trans fats are replaced with healthier alternatives.

Trade implications would need to be considered, however international examples such as the actions of the WHO REPLACE program provide precedence.

Consideration would need to be given to methods to support enforcement approaches for foods containing both industrially-produced and ruminant trans fats, due to difficulties in differentiating between ruminant and industrially-produced trans fats through analytical methods.

International examples

A mandatory limit on industrially-produced trans fats (2g of per 100g total fat in all foods) is in place in countries including Denmark, Italy, Spain, Austria, Ireland, Sweden, Chile, Poland, South Africa, Croatia, Norway, Malta, Iceland, Finland, Luxembourg, Bulgaria, Romania, France, Portugal, Hungary, Brazil, Germany and the Netherlands [11].

Strengths and weaknesses compared to status quo⁵

Strengths	Weaknesses
Would drive reformulation of foods containing industrially-produced trans fats.	Burden on Governments to amend regulations and enforce new requirements.
Equitable, all consumers would be protected from trans fats, including vulnerable groups.	Burden on industry to change product composition. However, likely to only affect a minority of manufacturers who have not already taken action to reduce or eliminate trans fats.
Prevents Australia and New Zealand from increase in ingredients or foods high in trans fats that cannot be sold in other markets	Potential trade implications.
Australia and New Zealand would meet 'best practice' for trans fats as outlined by the WHO and be eligible for certification by WHO.	

Risks and limitations

- Potential that reformulation in response to regulatory limits could see trans fats being replaced with saturated fats. While saturated fats are less dangerous than trans fats, it is still recommended that consumption of saturated fats be limited. However, healthier options to replace trans fats exist and are being used by industry [12].
- Prices of reformulated foods may increase, however, WHO reports that replacing partially-hydrogenated oils with healthier oils does not increase costs to the consumer.
- This option poses enforcement difficulties, as chemical analysis may be unable to distinguish between industrially-produced and naturally occurring trans fats. Chemical analysis is also a costly enforcement method.
- Unless well designed regulatory limits are introduced this option may disadvantage certain product groups such as dairy and meat products due to the inherent existence of ruminant trans fats in dairy and meat which cannot be reformulated and are not in scope of this work.

- **Consultation question 10a-** Are the risks and limitations associated with Option 6.3 described appropriately?
- **Consultation question 10b-** Are there additional risks that have not been identified?
- **Consultation question 10c-** Food manufacturers- how would this option impact you (include cost estimates where available)? How many SKUs would be affected? What would be a suitable time frame for this option to be implemented in your organisation.
- **Consultation question 10d-** What implementation issues need to be considered for this option?
- **Consultation question 10e-** Food manufacturers- what oils you most likely to use in place of partially hydrogenated oils?

⁵ Note these are strengths and weaknesses compared to the status quo, not compared to other options.

6.4 Prohibiting use of partially-hydrogenated oils in processed foods

Description

Under this option, use of partially-hydrogenated oils in processed foods would be prohibited. Healthier replacement oils are available, and are reported not to change the taste of the food or the cost to the consumer [12].

The approach is considered by the WHO to be one of the best practice policies for eliminating industrially-produced trans fats from the food supply.

This would support equity as it can reach groups of the population at greater risk of exceeding recommendations for consumption of trans fats. This option does not require consumer behaviour change, or consumers having the knowledge and skills necessary to identify foods containing industrially-produced trans fats and make healthy informed choices. Compared to approaches, mandatory product reformulation has been predicted to have the greatest benefits for equity [16, 17, 58].

While this regulatory limit would apply to all foods, the majority of products in the food supply do not use hydrogenated oils, and therefore this regulatory change is expected to affect a minority of manufacturers. This will help to create a level playing field and cement the achievements made by many manufacturers in reducing trans fat in foods.

This option would need to be accompanied by industry education to support industry to reformulate their products to meet the new regulations and ensure industrially-produced trans fats are replaced with healthier alternatives.

Compared to Option 6.3 this option may be easier to enforce because enforcement activities can be based on reviewing the food's statement of ingredients rather than compositional analysis of the food (minor changes to existing requirements in the Code for declaring oils in the statement of ingredients would be necessary to assist with enforcement). This option also does not inadvertently discriminate against products with ruminant trans fats such as meat or dairy because it is focussed only on industrially trans fats which are produced through partial hydrogenation of oils.

Trade implications would need to be considered, however international examples such as the actions of the WHO REPLACE program provide precedence.

International examples

A ban on partially-hydrogenated oils is in place in countries including the United States of America, Canada, Peru, Thailand and Singapore [11].

Strengths and weaknesses compared to status quo⁶

Strengths	Weaknesses
Would drive reformulation of foods containing industrially-produced trans fats.	Burden on Governments to amend regulations and enforce new requirements.
Equitable, all consumers would be protected from trans fats, including vulnerable groups.	Burden on industry to change product composition. However, likely to only affect a minority of manufacturers who have not already taken action to reduce or eliminate trans fats.
Prevents Australia and New Zealand from increase in ingredients or foods high in trans fats that cannot be sold in other markets	Potential trade implications.
Australia and New Zealand would meet 'best practice' for trans fats as outlined by the WHO and be eligible for certification by WHO.	

Risks and limitations

- Potential that reformulation in response to prohibition of partially-hydrogenated oils could see trans fats being replaced with saturated fats. While saturated fats are less dangerous than trans fats, it is still recommended that consumption of saturated fats be limited. However, healthier options to replace trans fats exist and are being used by industry [12].
- Prices of reformulated foods may increase, however, WHO reports that replacing partially-hydrogenated oils with healthier oils does not increase costs to the consumer.
- Global supply shortages in cooking oils may limit availability of healthier oil alternatives. Products unable to be produced without partially-hydrogenated oils may be removed from the market.

Consultation question 11a- Are the risks and limitations associated with Option 6.4 described appropriately?

Consultation question 11b- Are there additional risks that have not been identified?

Consultation question 11c- Food manufacturers- how would this option impact you (include cost estimates where available)? How many SKUs would be affected? What would be a suitable time frame for this option to be implemented in your organisation.

Consultation question 11d- What implementation issues need to be considered for this option?

Consultation question 11e- Food manufacturers- what oils you most likely to use in place of partially hydrogenated oils?

6.5 Options considered but not pursued

Education

The option of delivering education campaigns and materials was considered but not pursued. Education campaigns could inform consumers about the recommendations to limit trans fat consumption and the types of foods to avoid to limit trans fat consumption (particularly industrially-produced trans fats). However, without label changes, it may be difficult for consumers to apply the messages in consumer education as they may be unable to identify foods containing trans fats.

⁶ Note these are strengths and weaknesses compared to the status quo, not compared to other options.

Education campaigns could also (or instead) be delivered to industry on the importance of removing industrially-produced trans fats from their products and about healthier oil and fat alternatives to use in food manufacturing, however there would be little incentive for industry to apply the education messages, and the education would only be focussed on domestic food producers and not reach international manufacturers.

This option was not seen to adequately achieve the desired outcome because there is insufficient evidence [16] that public health education campaigns are effective for vulnerable populations groups [18] such as those with lower socio-economic status and lower-education levels at (those at higher risk of exceeding trans fat intake recommendations). There also insufficient evidence on the effectiveness of education campaigns to change dietary behaviours [18, 60]. Mass media based campaigns may have an effect on intermediate outcomes, such as knowledge and attitudes, but may not necessarily influence behaviour change [18, 61]. Difficulties in sustaining education campaigns also limit the potential of this option.

Import restrictions

The option of restrictions on the importation of partially-hydrogenated oils was considered but not pursued for this work. Restrictions on imported foods is implemented through the *Imported Food Control Act 1992* and the *Imported Food Control Regulations 2019* in Australia which is administered by the Department of Agriculture, Forestry and Fisheries (DAFF). Under this legislation, DAFF inspects imported food to check it meets food safety requirements and to ensure it complies with the Food Standards Code. Biosecurity restrictions are also in place for foods such as meat, fruit, eggs, vegetables and dairy products from certain countries.

In New Zealand, food safety requirements are set under the *Food Act 2014*. These include: the safety and suitability of food to be imported, requirements for safe handling, storing and transporting of food, record keeping, food recalls. Food imported must also meet the requirements of the Food Standards Code.

Therefore to impose an import restriction for partially-hydrogenated vegetable or fish oils, the oils must either be prohibited through the Food Standards Code or pose a food safety or biosecurity risk.

Prohibiting partially-hydrogenated oils through the Food Standards Code is being considered through Option 6.6 and therefore if this option was implemented import restrictions would also apply. While partially-hydrogenated oils are a health risk, they may not be considered to pose a microbiological, chemical food safety risk, or biosecurity risk and therefore not be restricted from importation on these grounds.

Fiscal measures

The option of fiscal measures such as taxes to encourage industry to reformulate their products to reduce or remove industrially-produced trans fats was considered but not pursued.

Taxes could be based on a food's trans fat content with a higher tax applying to foods with higher trans fat content. The tax could either be applied to consumers (i.e. increase the purchase price of the product) or industry (i.e. industry would determine whether to pass on the tax to consumers).

Reasons that this option is not appropriate include the fact that there are no analytical methods available to differentiate between ruminant and industrially-produced trans fats which result in foods containing ruminant trans fats being unfairly targeted. Products containing ruminant trans fats such as dairy and meat are unable to be reformulated to reduce trans fat content and these foods

(low fat and lean varieties in particular) are recommended in Dietary Guidelines in both Australia and New Zealand.

Industry would be required to calculate the trans fat content of their products to determine whether and how much the fiscal measure applies, and this would introduce an additional burden on the food industry.

This option may not be effective because some manufacturers may choose not to reformulate their products and instead pay the tax. This has been observed in response to taxes on sugar in beverages [62].

Under this option, vulnerable population groups may continue to be exposed to foods high in trans fats and may also experience increased costs for foods.

Labelling

Providing consumers with information through food labelling to support them to make informed choices is a recognised approach to supporting healthy eating. Under the National Obesity Strategy, Strategy 1.5 is to improve nutrition information to help consumers make healthier choices at the time of purchase and this strategy recommends consideration for trans fat labelling. However in this paper, changing food labelling regulations to provide information to consumers about the trans fat content of food was considered but not pursued. Labelling approaches considered were either requiring a mandatory declaration of ingredients containing industrially-produced trans fats (e.g. partially-hydrogenated oils); and/or requiring mandatory declaration of trans fat content in the Nutrition Information Panel (this would likely require a declaration of total trans fat content, as it is not possible to quantify industrially-produced trans fats separately).

This option was considered to not adequately achieve the desired outcome because it would only apply to packaged foods, and unpackaged foods likely to contain trans fats such as popcorn at a cinema, pies and pastries at a bakery etc would not be affected. Depending on the approach taken, this option could have a high burden on industry as all foods would need to change their labels (if a declaration in the NIP as required), not just those containing trans fats.

It is possible that labelling may drive industry reformulation to reduce or remove trans fats from their foods, however there are other options that can more effectively achieve this. Because it is not possible to quantify ruminant and industrially-produced trans fats separately, requiring a declaration of a food's trans fat content in the NIP may disadvantage certain industry sectors, such as dairy and meat, as these foods contain ruminant trans fats which are unable to be reduced through reformulation activities.

In relation to protecting vulnerable populations this option was considered to be insufficient because labelling interventions have been predicted to have minimal impact on reducing inequalities [16, 20]. Not all consumers use food/nutrition label information (or use it correctly) [63] when selecting foods to purchase or consume. Older consumers, or those with lower levels of education and income (i.e. those with higher consumption of trans fats) have the greatest difficulty interpreting nutrition labels [64]. For labelling to be effective it would rely on consumers knowing that trans fats are unhealthy and prioritising this knowledge when making food decisions.

Targeting foods high in industrially-produced trans fats

With the nature of the Australia New Zealand Food Standards Code, targeting foods high in industrially-produced trans fats is difficult as foods high in industrially-produced trans fats are in different food categories, for example pastries, popcorn and desserts can be high in industrially-

trans fats but are not in the same food category and there is no specific food standard for any of these foods. Options 6.3 and 6.4 effectively do target foods high in industrially-produced trans fats because they only will impact manufacturers using industrially-produced trans fats and these regulatory options would not impact other foods.

Consultation question 12- Do you agree that these options should not be pursued further?

7. Assessment of how well the proposed policy options achieve the objective of this work

This section assesses the proposed policy options to determine how well they meet the objective of the work. For this assessment, the objective has been split into components focussing on food composition, trans fat consumption and support for vulnerable populations. An additional column on feasibility has also been included in the table to identify any implementation barriers.

A colour code system has been used, with green indicating that the option can address the component of the objective well, orange indicating that it has some potential to meet the objective, and red indicating the option is unlikely to meet the objective.

This initial analysis indicates that Option 6.4- Prohibiting use of partially-hydrogenated oils is most likely to effectively achieve the objective of the work and have the least feasibility concerns. Feedback is sought on this conclusion. Information provided from stakeholders will be used to refine this assessment and any other options proposed by stakeholders can also be considered through this framework in the next stages of this work.

Consultation question 13- Do you agree with the analysis of how well the proposed options would achieve the proposed objective? If not, please describe why and provide references with your response.

Option	Industrially-produced trans fats minimised or removed (food composition)	Consumption reduced	Supports vulnerable populations	Feasibility considerations
6.2 Voluntary reformulation	Several manufacturers have already reformulated to remove partially-hydrogenated oils from their products. It is unclear whether the outstanding manufacturers will be receptive to further voluntary reformulation efforts. industrially-produced	Reduced consumption of industrially-produced trans fats is dependent on strong and widespread uptake of the voluntary reformulation.	Reduced consumption of industrially-produced trans fats amongst vulnerable populations is dependent on strong and widespread uptake of the voluntary reformulation.	<p>May be difficult to sustain without ongoing engagement with industry and monitoring of progress.</p> <p>Not all manufacturers may engage in the voluntary system.</p>
6.3 Regulatory limits for industrial trans fats in processed foods	This option would effectively minimise or remove industrially-produced trans fats from food. industrially-produced	Consumption is reduced because industrially-produced trans fats are eliminated or removed from the food supply. Consumers do not need to change behaviour to reduce consumption of industrially-produced trans fats.	Vulnerable populations are protected, industrially-produced trans fats can be removed or minimised across the entire food supply.	<p>If regulatory limit is introduced in Food Standards Code, then it can be sustained over the long term.</p> <p>However, as it is not possible to chemically differentiate between industrially-produced and ruminant trans fats, there may be enforcement difficulties for foods that contain both ruminant and industrially-produced trans fats.</p>

Option	Industrially-produced trans fats minimised or removed (food composition)	Consumption reduced	Supports vulnerable populations	Feasibility considerations
6.4 Prohibiting use of partially-hydrogenated oils in processed foods	Can successfully minimise or eliminate industrially-produced trans fats in the food supply. This option allows only industrially-produced trans fats to be targeted.	Consumption is reduced because industrially-produced trans fats are eliminated or removed from the food supply. Consumers do not need to change behaviour to reduce consumption of industrially-produced trans fats.	Vulnerable populations are protected, industrially-produced trans fats can be removed or minimised across the entire food supply. industrially-produced	If prohibitions are introduced in Food Standards Code, then it can be sustained over the long term. Effectively targets industrially-produced trans fats. Enforcement can be undertaken through reviewing statement of ingredients (with some changes to statement of ingredients declarations for oils).

8. What is the likely net benefit of the options

To determine the likely net benefit of the proposed options, this section considers the costs and benefits of the proposed options, including groups in the community that would be affected by each option and the economic, social and environmental impacts on them. At this point these costs and benefits are not quantified, and information is sought through this consultation paper to assist in quantifying costs and benefits where possible. In the next stage of this work other options identified through stakeholder consultation will also be considered for their potential benefits and costs.

Benefits

Reducing or eliminating industrially-produced trans fats in the food supply offers important health benefits to the population. These include reduced burden of disease, reduced health care costs and productivity gains. The benefits of the proposed options are dependent on the extent to which the option successfully reduces or eliminates industrially-produced trans fats and how well the option protects vulnerable consumers.

The WHO reports that elimination of industrially-produced trans fats can save 17.5 million lives globally over the next 25 years and prevent avoidable suffering. It will also reduce healthcare costs by preventing heart attacks, which require costly care, and reduce inequalities in health [12].

A modelling study published in late 2020 [19] reported that in Australia, around 400,000 coronary heart disease deaths could be prevented, and around 100,000 health-adjusted life years could be gained over the population's lifetime if a legislative ban on industrial trans fats was introduced (i.e. Option 6.3 or 6.4). The researchers predicted that the benefits of the legislative ban would be greater among socioeconomically disadvantaged groups and Australians living outside of major cities. The researchers estimated that a legislative ban on industrial trans fats would be cost saving or highly cost effective and could reduce health inequalities in the first 10 years after implementation. This conclusion took into account the costs to Government and industry for implementing the legislative ban and the fact that preventing coronary heart disease would increase the older population and associated health care costs.

Similarly, a 2015 modelling study [20] examining the equity and health benefits from different trans fat policies in the England reported that a total ban on trans fats in processed foods (i.e. Option 6.3 or 6.4) could prevent or postpone about 7200 (2.6%) of deaths from coronary heart disease from 2015-2020 and reduce inequalities in mortality from coronary heart disease by approximately 3000 deaths. In comparison, labelling policies or actions to remove trans fats from restaurants/fast food outlets were half as effective, saving between 1800 and 3500 coronary heart disease deaths, and reducing inequalities by 600 to 1500 deaths. This analysis reported that a total ban on trans fats could also provide net savings of £265m, or if reformulation costs were incurred outside the normal reformulation cycle, the net saving would be £64m.

A 2017 modelling study [21] reported similar findings for England and Wales, predicting that elimination of industrial trans fats could result in approximately 1600 fewer deaths per year (between 2011-2020), 4000 fewer hospital admissions; and gain approximately 14 000 additional life years. This study reported that health inequalities would be substantially reduced and that elimination of trans fats would be 'extremely cost-effective' (a WHO definition for policies costing less than per capita GDP), and even more cost effective than statin medication for preventing coronary heart disease deaths. In both studies, savings included direct health care costs, productivity costs averted and informal care costs.

To put these United Kingdom Studies into context, Australia and New Zealand are reported to have a higher proportion of coronary heart disease deaths associated with trans fats- 4.27% for Australia, 3.25% for New Zealand and 3.06% for the United Kingdom in 2019 (prior to the ban on industrially-produced trans fats being introduced in the United Kingdom in 2021) [11].

The evidence from modelling studies is reinforced with observed evidence of reduced coronary heart disease in locations where regulatory actions have been introduced to eliminate industrially-produced trans fats. Denmark introduced action to restrict industrially-produced trans fat in the food supply in 2004. Researchers estimate that after the first three years of introducing restrictions on industrially-produced trans fat, deaths attributable to cardiovascular disease in Denmark decreased by around 14.2 deaths per 100,000 people per year, compared to the death rate that would have otherwise occurred if the policy was not implemented [50]. Other researchers have reported that Denmark's mandatory trans fat limit accounted for 11% of the reduction in coronary heart disease deaths observed between 1991 and 2007, with the most deprived population groups benefiting the most from the policy [17].

Other positive benefits from reducing trans fats in the food supply have been reported for New York State where restrictions on use of ingredients containing trans fats in fast-food outlets were associated with a 4.5% reduction in cardiovascular disease mortality or 13 fewer cardiovascular disease deaths per 100,000 persons per year [52]. Counties in New York State with restrictions on industrially-produced trans fat recorded a 7.8% greater decrease in hospital admissions for heart attacks between 2007 and 2013 than counties without trans fat restrictions [48].

Consultation question 14a- Do you agree with the description of the possible benefits associated with the proposed options?

Consultation question 14b- Are there additional benefits associated with all or some of the proposed options that have not been captured? Please provide references for your response.

Costs

Aside from the status quo, all the proposed policy options have costs associated with them. Costs are born by Government and industry. Consultation questions to gather information on the costs of the proposed options have been included against each option.

It is expected that costs to industry would be limited to minority of the industry and only affected manufacturers would bear this cost. For example, regulatory limits for industrial trans fats in processed foods (Option 6.3) and prohibiting use of partially-hydrogenated oils (Option 6.4) would only affect manufacturers that produce products containing industrially-produced trans fats. Based on analysis of available information from the New Zealand GS1 database and Mintel GNPD, it is considered that only a minority of products would be impacted.

Other options may only have costs to industry who voluntarily chose to participate. For example, if there would be costs to manufacturers who chose to voluntarily reformulate their products as part of an organised voluntarily reformulation program (Option 6.2).

Costs to Government(s) would include the work involved in changing regulations and administrating and enforcing the regulations (for example Option 6.3, 6.4), operating a voluntary reformulation program (Option 6.2) and delivering industry education (relevant to all options). As the Australia and New Zealand Food Regulation System involves multiple levels of Government, several Governments may be impacted.

Consultation question 15- Are there additional costs associated with all or some of the proposed options that have not been captured? Please explain your rationale and your calculations.

10. Preferred policy option

This consultation will help to inform and identify the preferred policy option(s) to recommend to Food Ministers. The preferred policy option(s) will be the option likely to have the highest net benefit, giving consideration to how well the proposed options achieve the objective of the work.

Based on the initial analysis undertaken in this document, prohibiting use of partially-hydrogenated oils (Option 6.4) has the greatest potential to achieve the objective, however further evidence and costings are required and other options can be proposed before any recommendation is made to Food Ministers.

Consultation question 16- What do you consider to be the preferred policy option(s) to recommend to Food Ministers? Please explain your rationale.

11. Implementation and review

Unless the preferred option is to maintain the status quo, implementation of the preferred policy option(s) would be undertaken by Government and/or industry depending on the nature of the option.

Technical implementation issues and monitoring approaches would be considered once a preferred policy option has been identified and further consultation and regulatory analysis may be required.

Consultation question 17- Do you have any other comments on this document?

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Appendix 1

Statement agreed by Food Ministers in relation to composition of the food supply.

The nutritional composition of processed foods (both packaged and unpackaged foods and drinks, including those sold at quick service restaurants) is typically high in unhealthy fats, sugars and sodium/salt. Excess consumption of these foods and drinks can contribute to overweight and obesity, and diet-related chronic diseases.

A strategic, co-ordinated approach is needed to implement effective strategies across the food system to improve the composition of processed foods. The Forum recognises voluntary measures to improve food composition to support public health objectives to reduce chronic disease related to overweight and obesity unless there is a demonstrated need to consider regulatory measures. The Forum recognises the current voluntary activities occurring in Australia through the Healthy Food Partnership and in New Zealand through the Heart Foundation reformulation program.

In the event that voluntary efforts to improve food composition are not effective (for example, through lack of industry engagement, insufficient achievement of voluntary targets or inequalities in access to reformulated products) in supporting public health outcomes, consideration of additional regulatory and non-regulatory approaches is warranted. A systems approach⁷ is required in identifying potential failures in voluntary efforts and considering additional regulatory and non-regulatory options to improve population health outcomes in a timely and agile manner.

Two areas have been identified as case studies for a systems approach where population health would benefit from consideration of additional options to improve the composition of the food supply. These are sugary drinks and trans fat.

To inform the development of a systems approach to implement effective strategies across the food system to improve the composition of processed foods, two case studies on sugary drinks and trans fats will be co-progressed. Sugary drinks and trans fats will be progressed through Gateway 1 of the Food Regulation Policy Framework to understand and identify approaches within the food regulation system to improve food composition. These case studies will inform a systems approach in relation to food composition in Australia and New Zealand which takes a strategic view on policies and procedures on this issue.

Specific definitions of the problem for these nutrients/ingredients are described below:

- Sugary drinks - Excess consumption of sugars is associated with dental caries, unhealthy weight gain and associated chronic conditions. Over half of Australians and New Zealanders exceed recommended limits for consumption of sugars, with sugary drinks being a major contributor to sugar intakes. The amount of sugar in sugary drinks varies considerably internationally and domestically in similar products indicating there is scope to further reduce sugar. While there are voluntary reformulation actions in the beverage category, these have largely focussed on reducing sugar content across the beverage category by producing more bottled water or artificially sweetened drinks and not necessarily reformulating 'full sugar' products.
- Trans fats - Excess consumption of trans fats increases the risk for cardiovascular disease. Trans fats intakes are within recommended limits for the majority of consumers in Australia

⁷ An approach that considers the broad elements of the food system, both within the food regulation system as well as and voluntary initiatives.

and New Zealand, however evidence indicates vulnerable populations in Australia may be exceeding recommended trans fat consumption limits. Voluntary efforts to remove or reduce trans fats in the food supply have been largely successful. Despite this, some food products still contain trans fats, at levels above international compositional limits in some instances. These products are likely to contain industrial trans fats.

Appendix 2

Legislative approaches to eliminate trans fats internationally [11, 65]

Country	Legislative approach
Argentina	2% industrially-produced trans fat limit in oils and fats, and 5% limit in other foods.
Armenia	2% industrially-produced trans fat limit in oils and fats.
Austria	Limit on industrially-produced trans fats of 2g per 100g of a food item. Introduced in 2009.
Bahrain	2% industrially-produced trans fat limit in fats and oils and 5% limit in other foods.
Belarus	2% trans fat limit in fats and oils only
Belgium	Industrially-produced trans fat must be less than 2g/100g of total oils and fats in all foods. Introduced in 2021.
Brazil	Industrially-produced trans fat must be less than 2g/100g of total oils and fats in all foods. Introduced in 2021.
Bulgaria	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Canada	PHOs are included in the List of Contaminants and Other Adulterating Substances. This List is incorporated by reference in the Food and Drug Regulations, meaning that it has the force of law. This means that food producers, including manufacturers, restaurants and cafeterias, are not able to add PHOs to food products sold in Canada. The prohibition came into effect on 17 September 2018.
Colombia	2% trans fat limit in oils and fats, and 5% limit in other foods.
Costa Rica	Mandatory limit of industrially-produced trans fats for foods in specific settings.
Croatia	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Chile	The content of trans fats of industrial origin should not exceed 2% of total fat content in all products. This regulation is now fully in force, following a five year implementation period.
Cyprus	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Czech Republic	Mandatory national limit for industrially-produced trans fats <2g/100g total oils and fats in all foods. Introduced in 2021.
Denmark	A law introduced in 2003 prohibits the sale of products containing trans fats. Industrially-produced trans fats must be less than 2g/100g total oils and fats in all foods.
Ecuador	2% trans fat limit in fats and oils only.
Estonia	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods. Introduced in 2021.
El Salvador	Mandatory limits on industrially-produced trans fats in foods in specific settings.
Finland	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
France	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Georgia	Limit of 2% industrially-produced trans fat in fats and oils only.
Germany	Trans fat must be less than 2g/100g of total oils and fats in all foods. Introduced in 2021.
Greece	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Hungary	Limit of 2g industrially-produced trans fat per 100g of total fat content in all foods. Introduced in 2014.
Iceland	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods.
Ireland	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
India	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods
Iran	Limit of <2% trans fat content for corn oil, palm oil, frying oil and mixed liquid oils. Compliance required by 2016.
Italy	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods

Country	Legislative approach
Kazakhstan	2% industrially-produced trans fat limit on fats and oils only.
Kuwait	2% industrially-produced trans fats limit in fats and oils and 5% limit in other foods.
Kyrgyzstan	2% trans fat limit in oils and fats only.
Latvia	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods.
Lithuania	Mandatory national limit for industrially-produced trans fats. Trans fat must be less than 2g/100g of total oils and fats in all foods.
Luxembourg	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Malta	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Mexico	Mandatory limits on industrially-produced trans fats in foods in specific settings
Netherlands	Limit of 2g industrially-produced per 100g of total fat content for all foods introduced in 2021.
Norway	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods
Pakistan	Mandatory limits on industrially-produced trans fats in foods in specific settings
Poland	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Peru	Mandatory national ban on partially-hydrogenated oils. Mandatory national limit on industrially-produced trans fats to <2g/100g total oils and fats in all foods. Introduced in 2021.
Portugal	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Romania	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Russian Federation	2% trans fat limit for fats and oils.
Saudi Arabia	Mandatory national ban on partially-hydrogenated oils (PHOs)
Singapore	Mandatory national ban on partially-hydrogenated oils (PHOs)
Slovakia	Industrially-produced trans fat must be less than 2g/100g of total oils and fats in all foods. Introduced in 2021.
Slovenia	Mandatory national limit on industrially-produced trans fat. Trans fat must be less than 2g/100g of total oils and fats in all foods.
South Africa	Industrially-produced trans fat must be less than 2g/100g of total oils and fats in all foods.
Spain	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Sweden	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
Switzerland	In 2008, Switzerland set a limit on trans fats of 2g per 100g of vegetable oil or fat, with a one-year entry period.
Thailand	Sale, production and importation of partially-hydrogenated oils (trans fats) and food products containing partially-hydrogenated oils prohibited. In effect since January 2019.
Turkey	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
United Arab Emirates	2% limits of trans fats in oils and fats, and 5% limit in other foods.
United Kingdom	Limit of 2g industrially-produced trans fats per 100g of total fat content for all foods introduced in 2021.
United States	In June 2015, the US Food and Drug Administration (FDA) determined that PHOs, the primary source of trans fats, are not "generally recognised as safe (GRAS)" for any use in food. Food manufacturers had three years to remove PHOs from products. As of 18 June 2018, food manufacturers and restaurants are no longer allowed to produce foods that contain PHOs.
Uruguay	2% industrially-produced trans fat limit in oils and fats, and 5% limit in other foods.

Country	Legislative approach
Uzbekistan	4% trans fat limit in all foods.