

Department of Agriculture, Water and the Environment

**Cost Benefit Analysis of a New Regulatory Approach for
Domestic Organics**

**Report provided to inform advice to government based on
policy considerations as at 21 March 2022**

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Executive summary

Australia's organic market currently operates via a dual system, whereby domestically sold products do not need to be certified or comply with a particular standard to be labelled 'organic', and organic producers seeking to export their goods are required to obtain certification under the National Standard for Organic and Bio-Dynamic Produce.

Given this framework, at present, different requirements are imposed on organic businesses depending on whether their product is intended for export, import or domestic consumption. These differences lead to a greater administrative burden on businesses in determining how they conform to and substantiate organic claims.

With no single legal definition of the term 'organic', along with the use of several standards, inconsistent labels, differing certifying body logos, and multiple terms on product packaging, current practices of businesses participating with the organics market may cause consumer confusion and undermine shopper confidence.

Further, with no domestic regulation in place, the ability for government to negotiate equivalency arrangements with other countries is limited, resulting in greater certification costs for businesses requiring certification for international markets. This may create a disincentive to organic businesses interested in exporting to those markets under private arrangements due to the upfront and ongoing costs associated with maintaining export market access.

Due to these challenges, potential changes to the current regulatory framework have been considered under a cost benefit analysis.

Two options have been considered in the CBA, each compared against analysis of a base case (i.e. 'status quo'):

- Option 1 involves the introduction of a mandatory organic standard via Commonwealth legislation and an accompanying education campaign. Sub-options 1.1 – 1.4 consider the application of this standard across different sub-sets of the market, specifically:
 - Option 1.1 – Organic operators across the food and beverage sector, excluding small businesses
 - Option 1.2 – Organic operators across all sectors, excluding small businesses
 - Option 1.3 – Organic operators across the food and beverage sector, including small businesses
 - Option 1.4 – Organic operators across all sectors, including small businesses
- Option 2 considers a non-regulatory option, only involving the introduction of an education campaign administered by the Australian Government. Government will focus on providing government-based resources to consumers and businesses to improve their awareness and understanding of the existing framework which underpins the organics industry.

Further details on each of the options have been outlined within Chapter 4 of this document.

A cost-benefit analysis was used to assess the cost and benefit impacts of the two options considered against the base case. Both a ten-year and twenty-year timeframe has been considered as part of the analysis, given the initial years of the analysis capture the set-up costs of Option 1, leading to the realisation of benefits later on in the timeframe. Notwithstanding this approach, it is recognised that consideration of longer timeframes can have increasing uncertainties, due to unexpected market developments and outcomes.

Table 1 outlines the results of the quantitative analysis for Option 1 and 2. Essentially, these results show:

- In a ten-year analysis (the standard for a Commonwealth RIS analysis) without the uncertain export benefits, none of the options have a net benefit. For the regulatory options this is generally due to the long implementation period where no benefits are accruing, in a relatively short-term analysis. For the non-regulatory option, limited benefits are realised in the short-term.
- However, it would take only minimal export benefits (approximately a 1 per cent increase in current exports and minimal new entrants) to make all the regulatory options have a positive benefit cost ratio in the ten-year analysis.
- In a twenty-year analysis, all the regulatory options return a net positive economic result, even without export benefits. However, it is acknowledged that forecasting benefits over such a long timeframe is not standard for Commonwealth legislation, although it is not unprecedented. This is because there is inherent risk and uncertainty associated with the application of regulation in the future that should be kept in mind when examining the longer-term analysis.
- The non-regulatory option has a worse return in a twenty-year analysis than in the shorter time frame, as benefits of education diminish over time.
- General trends identified, when comparing the regulatory options (in both ten and twenty year analysis and with and without export benefits), provide:
 - Including small businesses in the option increases both costs and benefits but increases costs comparatively more. This is because costs are driven more by number of operators (i.e., both regulatory burden for business and risk-based regulation costs for government occur per certified organisation) whereas benefits are more driven by size of market (for example producer and consumer surplus). Small businesses are considerable in number of organisations but not in size of market, so their inclusion impacts costs more than benefits. This is why Option 1.3 is comparatively worse in economic results than Option 1.1 (and same for Option 1.4 compared to Option 1.2).
 - Including all products (not just food) returns better economic results as it increases the likelihood of clear and consistent information and the scale of the market captured for benefits. This is why Option 1.2 looks favourable to Option 1.1 (and Option 1.4 to Option 1.3). However, it is noted that including non-food products increases risk and brings complexity, especially as it potentially moves DAWE outside of its core remit of agriculture and primary production.

Table 1 Cost benefit analysis results, incremental to the base case (core analysis without export benefits)

		Option 1				Option 2
		Option 1.1	Option 1.2	Option 1.3	Option 1.4	
10 years at 7%	Total benefits (present value, \$ million)	67.5	85.9	72.0	88.9	9.6
	Total costs (present value, \$ million)	-87.5	-98.3	-91.0	-103.6	-13.0
	Net present value (present value, \$ million)	-20.0	-12.4	-19.1	-14.8	-3.3
	Benefit cost ratio	0.77	0.87	0.79	0.86	0.74
20 years at 7%	Total benefits (present value, \$ million)	201.0	258.3	212.9	266.5	9.9
	Total costs (present value, \$ million)	-131.1	-148.0	-136.3	-155.3	-15.1
	Net present value (present value, \$ million)	69.8	110.3	76.6	111.2	-5.2
	Benefit cost ratio	1.53	1.75	1.56	1.72	0.66

Contents

	Executive summary	iii
1	Context	3
	1.1 Introduction	3
	1.2 Previous reports	3
	1.3 Reasons for further analysis	3
2	Organics in Australia	5
	2.1 Australia's organic market	7
	2.2 Current regulatory arrangements	8
	2.3 Challenges within Australia's current organic framework	12
3	Options being considered	15
	3.1 The economics of labelling	17
	3.2 Options considered	18
	3.3 Option 1: Mandatory domestic organic standard via legislation	18
	3.4 Option 2: Non-regulatory option	21
4	CBA Approach	23
	4.1 Identification of costs and benefits	25
	4.2 Timeframe for analysis	27
	4.3 Core assumptions and sensitivities	27
	4.4 Volume forecasts	27
5	Benefits	31
	5.1 Reduction in regulatory burden for exporting organic operators	33
	5.2 Export market access (and sales) for new organic exporters	34
	5.3 Increased export opportunities for existing organic exporters	35
	5.4 Lower market concentration risk due to export market diversification driven by enhanced equivalence	35
	5.5 Increased producer surplus from greater consumer confidence	36
	5.6 Increased consumer utility from improved certainty and confidence	39

5.7 Lower certification costs for existing certified operators	39
5.8 Reduced cost of equivalence negotiations for government	40
5.9 Environmental benefits of organic products	40
5.10 Better availability of data and information regarding the market	41
5.11 Health benefits of organic products	41
6 Costs	
6.1 Increased regulatory burden and compliance costs for domestic operators	44
6.2 Transition costs for domestic operators	45
6.3 Implementation of a mandatory standard – policy, standard and legislative design	45
6.4 Implementing a mandatory standard – taskforce during industry transition	46
6.5 Risk-based regulation of a mandatory standard	47
6.6 Maintaining a mandatory standard	48
6.7 Implementing an education campaign	49
6.8 Loss of brand value for existing certifiers	50
7 Net Impact	51
8 Abbreviations	64
9 Sources	66

Context

1

1.1 Introduction

At present, domestically sold products do not need to be certified or comply with a particular standard to be labelled 'organic'. That is, there is no national agreed definition of what constitutes 'organic' products.

However, many organic businesses choose to be certified by an organic certification body to underpin 'truth in labelling' requirements and promote consumer confidence. Additionally, organic producers seeking to export their goods are required to obtain certification from an approved body in Australia under the National Standard for Organic and Bio-Dynamic Produce.

This approach has resulted in a dual system where products intended for different markets are subject to different standards and regulatory regimes. In the domestic market, this creates a potential information failure as consumers cannot observe or verify whether the label is accurate when purchasing a product labelled 'organic'.

Hence, we have been engaged to assist the Department of Agriculture, Water and the Environment (DAWE) to prepare a cost benefit analysis (CBA) of options to address these concerns about the current arrangements regarding the use of the term 'organic'. This CBA will feed into a Regulatory Impact Statement (RIS) process being run by the DAWE.

1.2 Previous reports

Since 1993, the Australian organic industry has been pursuing regulation that would see similar controls on domestic sales that apply to exports. Two applications were presented, through the Australian Quarantine and Inspection Service (AQIS), to Food Standards Australia New Zealand (FSANZ) (formerly the Australian Food Authority (AFA) and later the Australia New Zealand Food Authority (ANZFA)) to alter the Food Standards Code to define and control the use of the words "organic" and similar words and to require all food labelled as "organic" or similar to be certified by AQIS-accredited certifying organisations (AQIS 1997). The first application (A214) was submitted in December 1993 but subsequently withdrawn in June 1995 for revision. The application (A343) was re-submitted in April 1997 but was withdrawn again in July 2003 after being rejected by FSANZ.

More recently, the Department have undertaken a desktop CBA to assess the viability of certain options to address some of the concerns around Australia's current organic regulatory framework. Upon consideration of this desktop CBA, stakeholders have identified certain information gaps requiring further consideration.

1.3 Reasons for further analysis

The previous desktop analysis of similar regulatory options was criticised by some stakeholders for:

- not identifying all cost and benefits
- the use of inappropriate assumptions
- undertaking qualitative analysis rather than making a quantitative assessment of some costs and benefits.

To address these issues in the preparation of the following CBA, we will leverage:

- targeted industry consultation in roundtable meetings with industry representatives
- consumer views obtained via surveys
- producer views obtained from a survey conducted by KG2.

This information will assist us to better quantify the costs and benefits of the various options, to reach a CBA which appropriately quantifies and considers the respective costs and benefits of each option.

In undertaking this analysis, the following document, detailing the approach and CBA results, is arranged as follows:

- **Chapter 2: Organics in Australia** – an overview of the current market, including the existing regulatory arrangements, and the associated challenges of the current regulatory framework.
- **Chapter 3: Options considered** – includes an overview of the economic rationale of 'labelling', along with an outline of the options considered.
- **Chapter 4: CBA approach** – details the approach adopted within the CBA, including the costs and benefits identified to determine the potential impact of the options on different stakeholders across the organics market.
- **Chapter 5: Benefits** – assesses the benefits of the considered options against the base case.
- **Chapter 6: Costs** – assesses the costs of the considered options against the base case.
- **Chapter 7: Net impact** – outlines the net impact of each of the options and the preferred option based on the quantified results.

Organics in Australia

2

2.1 Australia's organic market

According to IBISWorld's 'Organic Farming in Australia 2022' report, the Australian organic industry, domestic and export, is worth over \$2.3 billion.¹

Across the industry, the term 'organic' is applied to a broad range of products, including:

- fruits, vegetables, and herbs
- meats (excluding poultry meat)
- nuts
- grains
- eggs and poultry meat
- milk (including all raw - i.e., unprocessed - milk produced from organic cows). This raw milk is pasteurised and used to create a range of organic dairy products, including milk, yoghurt, butter and cheese
- other products - the industry produces a variety of other products in small volumes, such as honey and wine.

The current size of Australia's organics industry is attributed to rising demand in domestic and export markets, likely driven by renewed growth in consumer disposable incomes and focus on health, particularly in light of COVID-19.

With an increase in land used for organic production in recent years this trend suggests that greater levels of demand have been met with greater levels of production.

In understanding Australia's current organics market, surveys were conducted to gather the perceptions of consumers, industry, operators and certifiers regarding the organics market. Results indicated that approximately 82 per cent of industry participants were involved in the production, processing or sale of organic products², while 37 per cent of operators were active in processing or other non-farming organic operations³.

Market players

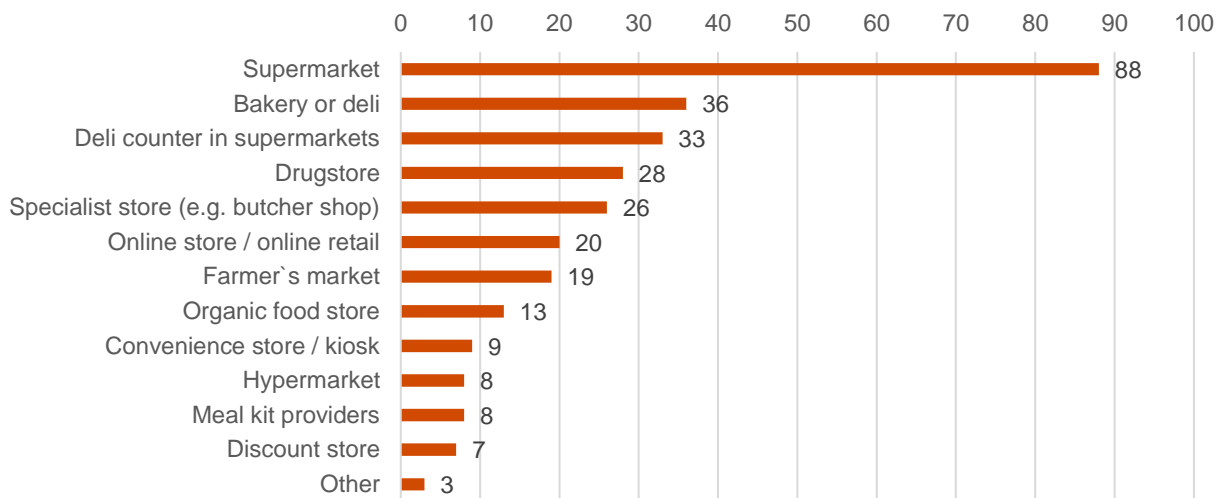
Across the industry, food and products for everyday use, including organic and non-organic products, are sold across an array of mediums, as evidenced within Figure 1.

¹ IBISWorld, *Organic Farming in Australia – Market Research Report, 2022*.

² Department of Agriculture, Water and the Environment, *Have Your Say survey – Domestic organics market, 2022*

³ Department of Agriculture, Water and the Environment, *Organic Industry Data Collection Report, 2022*.

Figure 1 Responses to: 'Where do you regularly buy food and products for everyday use?' (% - multiple answers allowed) ⁴



With respect to organics, industry consultation has indicated that the industry mainly consists of small operators. An example of these small operators included producers who operate within farmers' markets.

Organic produce sold directly to consumers at farmers' markets, has grown in popularity over the past five years. These markets provide an avenue for producers that are unable or unwilling to enter into supply contracts with wholesalers and major retailers to market their produce. 68 per cent of operators surveyed via KG2 described their operation as small, which would be assumed to fall within this medium.

With reduced levels of oversight across the products sold across this segment of the market, there is a risk of greater fragmentation existing around how operators go about achieving organic farming. As the consumption of organic produce becomes increasingly mainstream, the clarity of delivering on 'organic' farming becomes more integral, particularly as businesses, such as retailers and restaurants, look to sell an increasing number of organic products to health-conscious consumers.

The two major supermarkets, Woolworths and Coles, now stock a wider range of organic produce, which has made purchasing organic products more convenient. Both Woolworths and Coles have private-label organic ranges that include fresh fruit and vegetables, poultry, canned products, milk and cheese. As demand continues to increase, supermarket chains are anticipated to increasingly stock organic products over the period.

Consumers that purchase their groceries online and have it delivered to their homes also form a small, but growing market for organic produce.

2.2 Current regulatory arrangements

At present, there are two main standards in Australia that outline the production process and labelling requirements with respect to organic produce:

- the National Standard for Organic and Bio-Dynamic Produce (National Standard) – applicable to produce intended for exportation
- the AS6000:2015 - Organic and biodynamic products (AS6000) – the standard applicable to produce intended for the domestic market and produce that is imported into Australia.

⁴ www.statista.com/forecasts/1187921/grocery-shopping-by-type-in-australia, [9 March 2022].

In addition to these two standards, there exists a number of private standards which are similar to or based on the specifics of the National Standard.

Whilst the two organic standards have no legal effect on their own, they are legally enforced in conjunction with existing legislative instruments:

- Organic produce that is intended for exportation is regulated by the National Standard in conjunction with the *Export Control (Organic Goods) Rules 2021 (Cth)* and *Export Control Act 2020 (Cth)*.
- Organic produce that is intended for the domestic market is regulated by the AS6000 in conjunction with the *Competition and Consumer Act 2001 (Cth)*.

Given that there are two organic standards and the enforceability of the two standards is dependent on various legislative instruments, it cannot be said that there is a single definitive organic labelling regime within Australia.

Further detail on these two standards is included below.

2.2.1 The National standard

The *Export Control (Organic Goods) Rules 2021 (Rules)* outline the requirements for production processes and the labelling of organic produce in Australia intended for exportation. The Rules state that the export of organic goods is ‘prohibited unless the exporter of the organic goods holds an organic goods certificate’.⁵ ‘Organic goods’ is defined as goods ‘that are described as, or described as including ingredients that are organic, biodynamic, biological, ecological or any other similar description’.⁶

Therefore, in order to market a product intended for exportation as ‘organic’, an organic goods certificate must be issued by an approved certifying body or authorised officer.⁷ An ‘approved certifying body’ is an organisation holding an approved arrangement for organic goods certification operations. Organic goods certification operations refer to operations relating to importing country requirements needing to be met for the purpose of issuing an organic goods certificate.

Provided the organic goods are reasonably believed to have been carried out in accordance with the National Organic Standard and all importing country requirements have been met, an organic produce certificate will be issued. This in turn entitles the organic goods to be labelled with an approved certifying identification mark. Currently there are six approved certifying bodies in Australia, each with its own unique organic identification symbol.

Table 2 Approved Australian certifying bodies

Approved certifying organizations	Organic identification symbol
ACO Certified Ltd ⁸	

⁵ *Export Control (Organic Goods) Rules, 2021.*

⁶ *Export Control (Organic Goods) Rules, 2021.*

⁷ *Export Control (Organic Goods) Rules, 2021.*

⁸ The certification mark used by ACO is understood to be owned by Australian Organic Limited, which is expected to be used under a fee for service and licence agreement.

NASAA Certified Organic (NCO)



AUS-QUAL Pty Ltd



Bio-Dynamic Research Institute



Organic Food Chain



Southern Cross Certified Australia Pty Ltd



The purpose and intent behind the implementation of the National Standard was to facilitate international trade and market access for Australian organic producers and suppliers, by ensuring that the National Standard complies with the requirements of importing countries.⁹ Given that the National Standard was created to address the needs of international trade, and as a result is only strictly enforceable on organic produce intended for exportation, the domestic organic market is effectively left to its own devices.

2.2.2 Standard applicable to organic produce intended for the domestic market

Organic produce intended for the domestic market does not require an organic produce certificate from an approved certifying body, nor does it need to bear an approved certifying body's identification mark to be labelled 'organic'.

This process is entirely voluntary for organic produce intended for the domestic market. However, organic producers who label their produce as 'organic', whether certified or not, must comply with the prohibitions on false, misleading or deceptive conduct or representations under the Australian Consumer Law (found in Schedule 2 of the Competition and Consumer Act 2010 (Cth)).¹⁰

⁹ *Export Control (Organic Goods) Rules, 2021.*

¹⁰ *Competition and Consumer Act 2010 (Cth) s 56BN.*

In 2009, to address the 'recognised need to standardise the sectors of the organic industry', Standards Australia published the AS6000.¹¹ The AS6000 sets out organic production and labelling guidelines with respect to organic produce intended for retail sale in the domestic market.

Whilst the National Standard is legally enforceable, as it is enforced in conjunction with the *Export Control Act 2020* (Cth) and Rules on all organic produce intended for exportation, the AS6000 does not have the same level of legislative support.

The AS6000 provides the ACCC with a 'useful reference point' when determining the technical meaning of 'organic' in prosecutions alleging misleading and deceptive organic claims under the *Competition and Consumer Act 2010* (Cth).¹²

AS6000 operates merely as a guideline, particularly as compliance with the standard is voluntary. This leaves the responsibility of policing organic claims in the domestic market up to consumers, suppliers and the ACCC and state and territory ACL regulators – only where the ACCC determines that a matter is likely to 'result in widespread consumer detriment'. The ACCC's scope of what they pursue is narrowed due to limited resources.¹³

Given the vulnerability of consumers and their inability to confirm premium and credence produce,¹⁴ it is questionable whether the current organic co-regulatory framework within Australia adequately protects consumers.

The AS6000, on its own, has no legislative effect. With no definitive regulation framework within the organic market, the likelihood of unsubstantiated organic claims at the expense of consumers and organic suppliers who play by the rules increases, negatively impacting on market confidence and integrity.

In 2013, the ACCC negotiated with eight suppliers of bottled water to remove 'organic' claims from their product labels and marketing materials.¹⁵ The ACCC contended that "[t]he word 'organic' in the context of food and drink refers to agriculture products which have been farmed according to certain practices. Water is not an agriculture product and cannot benefit from such practices so it is not appropriate to use 'organic' to describe it".¹⁶ This resulted in an outcome that was consistent with AS 6000-2009 (now referred to AS6000) - that 'natural products such as minerals, salt or water shall not be collected or harvested or processed and labelled as 'organic''.¹⁷

Prosecution of organic claims

Although the pursuit of 'organic' claims in the domestic market is somewhat murky due to a lack of definitive legal definition, false, misleading, or deceptive 'certified organic' claims may be more straightforward to pursue. If organic goods are labelled as 'certified organic', the producers must be able to substantiate their claim, namely that the produce has been certified by an approved certifying body.¹⁸ Notwithstanding the certainty that this approach would provide, certification remains voluntary for organic produce supplied to the Australian domestic market.

The voluntary nature of certification within the domestic market however has not deterred the adoption of certification by a number of organic businesses within Australia (i.e. businesses selling products for domestic consumption). This is the result

¹¹ *Export Control (Organic Goods) Rules 2021*.

¹² *Competition and Consumer Act 2010* (Cth) s 56BN.

¹³ www.accc.gov.au/about-us/australian-competition-consumer-commission/compliance-enforcement-policy-priorities [9 March 2022]

¹⁴ Australian Organic, *Australian Organic Market Report 2021*.

¹⁵ <https://www.accc.gov.au/media-release/accc-negotiates-removal-of-misleading-%E2%80%99organic%E2%80%99-water-claims> [9 March 2022].

¹⁶ *Ibid.*

¹⁷ *Ibid.*

¹⁸ *Competition and Consumer Act 2010* (Cth).

of the 'spill over' effects that the National Standard has had on the domestic market, as identified by Martin J in *Marsh v Baxter* [2014] WASC 187.¹⁹

Based on the structure and operation of these regulatory arrangements, it is clear that there are certain challenges arising from the framework currently in place. These were discussed in detail through consultations conducted with stakeholders and have been addressed in further detail below.

2.3 Challenges within Australia's current organic framework

Consultation with a range of stakeholders across the organics market has identified certain challenges associated with the current regulatory system. The CBA is undertaken with a clear view of these challenges to determine how best the options are seeking to address the limitations identified.

These challenges include limitations of current regulations, lack of clear and consistent information and barriers to trade, each explored below.

2.3.1 Limitations of current regulations

At present, different requirements are imposed on organic businesses depending on whether their product is intended for export, import or domestic consumption. The difference across these levels includes:

- **Exports:** Organic operators exporting products overseas are required to obtain certification from an approved certifying body under a mandatory standard (i.e. National Standard).
- **Imports:** Under the Biosecurity Act 2015, certain foods may be restricted from entry and other foods may require an import permit and compliance with specific conditions. Under the Imported Food Control Act 1992, imported food must be safe and compliant with requirements in the Australia New Zealand Food Standards Code and the Country-of-Origin Food Labelling information standard. Neither Act places any obligation on importers to substantiate claims of organic goods or produce.
- **Domestic consumption:** Organic products intended for domestic consumption are not required to be certified or comply with a particular standard.

These differences lead to a greater administrative burden on businesses to decipher whether they are compliant with the existing obligations. The absence of a legislated definition of the term 'organic' in the Australian domestic market may add further uncertainty to businesses in determining how they conform to and substantiate organic claims, potentially undermining the market integrity of Australia's organics sector and organic producers.

2.3.2 Lack of clear and consistent information limiting consumer confidence

With no single legal definition of organic, along with the use of several standards, inconsistent labels, differing certifying body logos, and multiple terms on product packaging, it is understandable that the current practices of businesses participating with the organics market may cause consumer confusion and undermine shopper confidence. This confusion is further enhanced as consumers are limited in their capacity to decipher whether a product would qualify as 'organic'.

This gives rise to a risk that if consumer awareness of regulatory gaps were to grow, the incentive to buy organic products could diminish which has the potential to impact the organics supply chain. Organic businesses may face the threat of losing their consumer base due to the wrongdoing of other businesses. This could also deny consumers access to products they desire and for which they would be prepared to pay a premium.

¹⁹ *Marsh v Baxter* [2014] WASC 187.

2.3.3 Barriers to trade and market access

For markets where there is organic regulation of imports, exports and their domestic market, and where Australia has not negotiated equivalence arrangements, operators can only access these markets through conformity assessments. This is where an approved certifying body enters into an arrangement to have their private standard recognised by the overseas government, with goods then certified to that private standard.

Importantly, the costs to certification bodies to maintain such overseas arrangements adds up and is passed onto businesses requesting this certification – typically as an add-on fee, charged per export market. This may create a disincentive to organic businesses interested in exporting to those markets under private arrangements, due to the upfront and ongoing costs associated with maintaining export market access.

In comparison, equivalency arrangements may help reduce the cost burden on Australian exporters, removing the need for additional certifications where such an arrangement can be negotiated. While not all domestic producers will want to access international markets, greater consistency across domestic and export regulation could lower the cost of doing so and broaden options for future growth. It would also provide added protection from a downturn in either a domestic or international market.

Options being considered

3

3.1 The economics of labelling

The rationale of domestic labelling and the economics justifying intervention has been considered to develop the options included within the CBA.

The Office of Best Practice Regulation (OBPR) outlines that government interventions in markets should generally be restricted to situations of market failure – consideration of the inefficient and inequitable outcomes to which such market distortions could generate.²⁰

In respect of the labelling of organic products, possible market failures may include those arising from:

- information asymmetries (e.g. producers have greater knowledge regarding the organic nature of goods or classes of goods than the consumer)
- possible negative social externalities (e.g. incorrect or absent labelling may impact on consumer confidence and integrity).

Information asymmetries

The existence of asymmetries of information between producers and consumers has a wide series of potential consequences for producers, consumers, and the way markets work. The producer, who is the only one to know the true organic nature of their product, is therefore in a position of relative advantage and may be tempted to behave unfairly, giving rise to situations of:

- Adverse selection — in a market characterised by non-uniform products, in which qualitative differences are known to producers alone, two products end up being sold for the same price (i.e. there is no price premium for organic products).²¹ This may result in the consumer getting inferior product quality, as there is no benefit for the makers of the higher-quality product to remain in the market. This leads to the problem of adverse selection, resulting in a mismatch of customer wants
- Moral hazard — products sold at the same price initially possess the same level of quality. This does not prevent a producer from subsequently selling his product with a lower level of quality while maintaining the same price. By doing so the producer can gain the difference between the market price and the lower production cost. Once again, the quality level of the total supply drops and the consumer is deceived.

In summary, the impact of information asymmetry on the workings of the market is detrimental as:

- the quality of total supply drops
- higher-quality products are driven out of the market
- some consumers will no longer be able to satisfy their preferences
- producers of quality products suffer unfair competition from those who sell inferior products at the same price.

Thus, a *prima facie* case for the regulation of the use of the term 'organic' may arise if the intensity and nature of the informational imbalance, which exists between suppliers and consumers, is found to clearly distort market outcomes. However, this alone is not sufficient to justify government intervention.

²⁰ Commonwealth of Australia, Department of the Prime Minister and Cabinet, *Regulatory Impact Analysis Guide for Ministers' Meetings and National Standard Setting Bodies*, May 2021.

²¹ See Akerlof, "The Market for Lemons: Quality Uncertainty and the Market Mechanism" (1970) 84 *Quarterly Journal of Economics* 488.

Government intervention has its own costs and must be assessed against whether the intervention improves the information available for consumer decision-making in a useful manner. The evaluation must particularly take note of any market responses (e.g. 'signalling' behaviour) that correct for information asymmetries.

Negative social externalities

To a lesser degree there may be a perception of a market failure because of negative externalities that could arise in two circumstances:

- where the actions of producers that make dubious claims are exposed, this may result in a general loss of confidence in all producers within an industry
- it could also be argued that a negative externality exists to the extent that the lack of a domestic organic standard leads to changes in consumer behaviour and then to changes in outcomes (e.g. poorer health, stress, etc), this has the potential to impact on taxpayers through changing demands through the social security system, the public health system, and so on.

The economic theory behind labelling suggests that operators will only look to uptake certification, and disclose this to consumers, where it is useful to consumers and directly benefits operators (i.e. when accessing the exports market).

Based on current challenges associated with the existing regulatory system, including the differences in approach applied to products intended for exports, imports and domestic consumption, barriers to trade and market access, and limited information impacting on consumer confidence, options for intervention have been outlined in Section 3.2 which look to address these limitations.

The market impacts of organic labelling for each of these developed options will be detailed within the subsequent quantification of benefits and costs within Section 5 and 6 respectively.

3.2 Options considered

Two options, including four sub-options under Option 1, have been developed for this CBA. The distinction between the two options is summarised in Table 3 and detailed in the section below. These options have been assessed against a base case (i.e. 'status quo'), which assumes no regulatory reform in this policy area.

Table 3 Summary of proposed options

Option	Sub-option	Applies to	Small businesses included?	Risk-based regulation by
Option 1 – via new Commonwealth legislation with a mandatory certification mechanism and optional inclusion of a government logo	Option 1.1	Food and beverage goods only	No	Commonwealth body
	Option 1.2	All goods	No	Commonwealth body
	Option 1.3	Food and beverage goods	Yes	Commonwealth body
	Option 1.4	All goods	Yes	Commonwealth body
Option 2 - Education campaign (non-regulatory option)	Non-regulatory option	All goods	This non-regulatory option focusses on providing information to consumers so has no business inclusion definition or direct regulatory body	

3.3 Option 1: Mandatory domestic organic standard via legislation

This option reflects a legislative regime that regulates the use of the term 'organic' via Commonwealth legislation. This proposed legislation requires mandatory certification to use of the term 'organic', specifying what requirements must be followed to be able to make such a claim (subject to certain exemptions). The scope (i.e. the extent of products to which the

option applies in) and application of this option has been considered across four sub-options to appropriately measure the attributable costs and benefits:

		Product inclusion	
		Food and beverage only	All products
Business inclusions	Only businesses over small turnover threshold	Option 1.1	Option 1.2
	All incorporated businesses	Option 1.3	Option 1.4

The term ‘organics’ is discussed in the National Standard²² as:

agricultural production and subsequent processing that is conducted without the use of artificial fertiliser or synthetic chemicals. Producers and processors who chose to operate organically may also choose to adopt practices that are complementary to not using synthetic chemicals, such as sustainable use of resources or conservation.

Small businesses are defined as producers with an overall (including both organic and non-organic production) annual turnover below \$50,000. We acknowledged that this is a relatively high threshold for small business when compared to international schemes. However, this definition is utilised in this analysis as it was found to be suitable for obtaining the most reliable data (i.e. this category of producers is explicitly measured in both the KG2 and general Australian Bureau of Statistics data such as *Count of Australian Businesses*). As such, the analysis using this threshold for the definition of small business should be seen as an ‘upper bound’. As ongoing policy work is yet to determine if a small business exemption is appropriate, and confirm the overall definition, the options presented here should be seen to exhibit the range of possibility. If this policy work determines a lower threshold, the cost benefit outcome is likely to be between the options presented (i.e. a lower small business threshold definition applied just to food products would have cost benefit results between that presented for Option 1.1 and Option 1.3).

Where a producer has an annual turnover less than this threshold (and is therefore classified as a small business based on the definition explained above), they will not need to comply with certain organic regulatory arrangements (i.e. certification requirements) under Option 1.1 and 1.2.

3.3.1 Scope

Under Option 1, the scope of products being considered include either:

- food and beverage only (Options 1.1 and 1.3)
- all products (Options 1.2 and 1.4).

These two categories have been considered to identify the benefits and costs which arise across each approach (i.e. introducing legislation which captures organic food and beverage operators only versus legislation which captures all organic products). By quantifying the costs and benefits across these two categories, the CBA provides insights around whether full coverage of the industry will be the best use of resources to address the current challenges existing under the current regulatory framework, in comparison to a more targeted sector of the industry.

3.3.2 Application

Option 1 will apply to products for sale to consumers. Businesses providing a service, such as transport or storage of organic products, on behalf of an organic business will not be required to be approved by the relevant ministry because they are not responsible for describing the product as organic. However, they will still need to meet the requirements of the organic standard indirectly through their contractual relationship with the organic business as their services can compromise the organic status of products.

²² National Standard for Organic and Bio-Dynamic Produce.

Services also include production, processing, labelling and imports.

3.3.3 Standard

The standard to be enforced by Commonwealth legislation under Option 1 would be the AS6000. The technical content of the standard will be based largely on the current National Standard. This will deliver certain cost savings as a new standard will not be started from scratch, recognising that the new standard will still require some sort of review and revision to make it fit-for-purpose going forward.

This is expected to result in either no or limited impacts to trade arrangements in place and those currently undergoing negotiation.

3.3.4 Certification process

A certification process will be conducted by Australian Government, based on the current exports program.

This will see the Australian Government oversee the approval of third parties as 'approved certifying bodies' who will administer the certification process of operators. Approved certifying bodies (i.e., certifiers) will undertake the certification of organic products per the Standard introduced, which includes conducting risk-based audits, for the purposes of registering and certifying businesses which intend to operate within the organics market.

The Australian Government will continue to regulate and oversee certifier arrangements to ensure certifiers are operating in a consistent manner across the industry, thereby delivering increased quality assurance around how certifiers are operating within the market.

Exemption from mandatory certification

Under all sub-options, producers with an annual turnover below a set threshold (i.e. small business as per Options 1.1 and 1.2) will not need to be certified under the mandatory standard. However, such producers will still have an obligation to comply with the organic regulatory arrangements.

This exemption has been included to recognise the potential regulatory burden on small businesses under new legislation mandating certification of organic products intended for domestic consumption. While such businesses will be excluded from obtaining mandatory certification, there will still be a requirement to meet the standard where the term 'organic' is set to be used.

The application of this exemption under Options 1.1 and 1.2 will be compared to Options 1.3 and 1.4 (where no 'small business' exemption will apply) to understand the direct impact of this exemption on the organics market, and small businesses directly. This will indicate whether there are any risks associated with a proportionate approach, and whether such an allowance could continue to confuse consumers and restrict the growth of consumer confidence.

3.3.5 Branding considerations

Under Option 1, one government design would be mandated, whereby the term would be required to be used on a product. Operators would then have the option to use a government-owned and approved logo associated with 'certified organic' products. This would be a voluntary measure that operators would be able to adopt for the purposes of operating within the organics market and communicating to consumers that their products are indeed certified in accordance with legislative requirements.

This approach would look to address consumer confusion, considering in the current market, there are multiple certifier-owned marks applied across an arrange of products.

3.3.6 Implementation

An assumption underlying this analysis is that implementation of Option 1 is expected to take two years to design, seek authority and draft legislation.

Upon implementation, it is expected that a transition period of up to three years will be undertaken, allowing businesses and consumers to be educated about the new framework. Support is expected to be provided to industry during this transition period. This period would also cater for conversion of the existing certification process (as required).

3.3.7 Risk-based Regulation and compliance

The Australian Government intends to adopt a rigorous risk-based regulation and compliance process to give confidence to trading partners and consumers of the scheme's integrity.

To achieve, this a new team will be responsible for monitoring and ensuring compliance within the marketplace.

This new team will undertake the following functions:

- regulate certifiers (registrations, risk-based audits, quality assurance, etc.)
- managed complaints process (manage complaints, pursue cases, work with legal to litigate, etc.)
- conduct verification inspections
- deal with standard oversight and management.

3.3.8 Cost recovery

The application of the Commonwealth's cost recovery principles under a mandatory standard is still being investigated. While the incidence of a cost is generally not a quantified consideration in a CBA (which capture net economic costs regardless of how costs are passed through) we note that total costs are likely to incrementally increase under a cost recovery arrangement (to include cost of administration) but will not change the magnitude of the overall costs.

3.4 Option 2: Non-regulatory option

The non-regulatory option considered centres around the delivery of an information and education campaign by the Australian Government.

Under this campaign, government will focus on providing government-based resources to consumers and businesses to improve their awareness and understanding of the existing framework which underpins the organics industry. This would be achieved via the following mechanisms:

- establishing a mechanism to provide updates on the status of certified products and operators
- launching a dedicated website page with information and fact sheets on current arrangements
- providing access to potential physical resources (i.e. in-store signage, brochures, etc).

For consumers, dedicated resources made available via a website would focus on detailing, for example:

- what they should be looking out for (i.e. certification markets, etc)
- the difference between 'organic' and certified organic
- how certification works.

For businesses, dedicated resources made available via a website would focus on detailing, for example, how:

- to become certified
- certification works
- to get in touch with certifiers.

3.4.1 Cost recovery

The application of the Commonwealth's cost recovery principles for non-regulatory approach is still being investigated. While the incidence of a cost is generally not a quantified consideration in a CBA (which capture net economic costs regardless of how costs are passed through) we note that total costs are likely to incrementally increase under a cost recovery arrangement (to include cost of administration) but will not change the magnitude of the overall costs.

CBA Approach

4

In this CBA we consider the costs and benefits (for industry, consumers, community and government) associated with the options assessed against the base case (i.e. the current organics framework) for the purposes of determining the preferred option.

For the purposes of assessing the costs and benefits associated with the proposed options, the options are assessed against a base case. The base case is the situation that would have otherwise occurred in the absence of the proposed reform.

4.1 Identification of costs and benefits

The costs and benefits presented in this CBA reflect the potential impact of each option on different stakeholders across the organics markets (e.g. consumers, industry (producers and processors), and government).

Data sources

Data for the purposes of this analysis is sourced through publicly available information and three independently run surveys. These surveys are referred to within this report as the KG2 Producer survey, the *Have Your say* Industry survey, and the PwC Consumer survey. Furthermore, it should be noted that a series of consultations conducted by PwC provided background information in the formulation of this report. A short Certifier survey was also conducted prior to a PwC consultation discussion with organic certifiers.

- The KG2 Producer survey – In 2021, KG2 was engaged by DAWE to investigate the number and nature of organic operators in Australia, including both uncertified and smaller producers. The survey provided findings regarding the distribution by size, location and turnover of organic operators, certification and insight into market trends and operator views on certification. The findings informed the formulation of assumptions in this analysis and provided inputs for the CBA model itself.
- The *Have Your Say* Industry survey – During 2021 and 2022, a voluntary survey was advertised on the DAWE website to ascertain insights into organic production, the business practices of organic operators and the general sentiments of organic operators around organic certification and the current and future organic market. The findings from this survey were primarily utilised to inform on future industry direction and priorities during the development stage of this analysis
- PwC Consumer survey – From 2021 to 2022, PwC was engaged by DAWE to investigate consumer awareness and buying behavior with regards to organic products. Insights from this survey served to inform on the potential benefits and costs to the consumer under the current non-regulatory regime and a possible future mandatory regime.
- PwC Consultations discussions – In 2022, PwC was engaged by DAWE to investigate through consultations with industries, representatives and certifying bodies, the general industry, and consumers perspective on the mandatory regulation of organic products. The findings of these consultations provided further insight into the advantages and disadvantages of potential legislation and the current regime and therefore context when developing the CBA model and report.
- PwC Certifier survey – In 2022, prior to consultation discussions with certifying bodies, PwC requested that representatives from certification bodies complete a short survey. Findings from this survey were primarily used as background information for the purposes of this report.

The identification of the costs and benefits builds on the previous desktop CBA.²³ It includes all previously examined costs and benefits (with one exception referenced below), as well as new categories of costs and benefits (or a more detailed breakdown of previous categories).

²³ Deloitte Access Economics (2021)

The only category that has been removed for this analysis was costs to consumers from the pass-through of producer costs. While understanding the incidence of each of the costs (i.e. who ultimately pays), this is not a separate cost in addition to the producer costs; it is a pass through of costs already considered. To consider this cost separately is likely to either lead to double counting or confusion. As such, the incidence of the producer costs (i.e. if they are passed through) is considered within each producer cost, not separately. To avoid confusion, the costs and benefits in the remainder of this report are not separated out by beneficiary as there is likely to be interactions of costs being passed through to other parties (considered in each cost and benefit).

In Table 4 we have summarised the costs and benefits considered in this analysis – including definitional comparison to previous analysis.

Table 4 Summary of costs and benefits

Benefit / cost		Included in previous desktop CBA	Approach in this analysis	
Benefit				
B1	Reduction in regulatory burden for exporting organic operators	Yes - Quantified	Quantified	Consistent approach, with updated assumptions
B2A	Export market access (and sales) for organic operators not currently exporting	No - Considered but not quantified (or separated by existing and new exporters	Quantified	New approach as sensitivity/breakeven with new data inputs and separate for new and existing exporters
B2B	Increased export opportunities for existing organic exporters		Quantified	New approach as sensitivity / breakeven with new data inputs and separate for new and existing exporters
B3	Lower market concentration risk due to export market diversification driven by enhanced equivalence	No	Considered	Considered but not quantified
B4A	Increased producer surplus from greater consumer confidence for organic operators	Yes - Quantified (consumer surplus not separated)	Quantified	New approach leveraging better information and separating between producer and consumer surpluses
B4B	Increased consumer utility from improved certainty and confidence delivered by mandatory standard	Yes - Considered as part of 4A quantification above	Quantified	New approach leveraging better information and separating between producer and consumer surpluses
B5	Lower certification costs for existing certified operators	Yes - Quantified	Sensitivity analysis	Considered quantitatively only as a sensitivity rather than core benefit
B6	Reduced cost of equivalence negotiations for governments	No - Considered but not quantified	Considered	Considered but not quantified
B7	Environmental benefits of organic products	No	Considered	Considered but not quantified
B8	Better availability of data and information regarding the market	No	Considered	Considered but not quantified
B9	Health benefits of organic products	No	Considered	Considered but not quantified
Costs				
C1	Increased regulatory burden and compliance costs for domestic operators	Yes - Quantified	Quantified	New approach (leveraging more detailed understanding of change in level of certification from analysis of benefit 4)
C2	Transition costs for domestic operators	Yes - Quantified	Quantified	Consistent approach but updated assumptions
C3A	Implementing a mandatory standard – policy, standard and legislative design	Yes - Quantified	Quantified	Updated approach in line with more detailed policy work to understand this scope
C3B	Implementing a mandatory standard – taskforce during industry transition	No - (no transition period identified)	Quantified	Updated approach in line with more detailed policy work to understand this scope
C4	Risk-based regulation of a mandatory standard	Yes - Quantified	Quantified	Updated approach in line with more detailed policy work to understand this scope
C5	Maintaining a mandatory standard	Yes - Quantified	Quantified	Updated approach in line with more detailed policy work to understand this scope
C6	Implementing an education campaign	Yes - Quantified	Quantified	Updated approach in line with more detailed policy work to understand this scope
C7	Loss of brand value for existing certifiers	No	Considered	Considered but not quantified

Where there is insufficient publicly available information, assumptions have been made to address any identified data gaps. Where such information is not available, or it has been considered inappropriate to make such assumptions, the relevant cost or benefit is discussed qualitatively.

The assumptions adopted are discussed in detail in the latter chapters.

4.2 Timeframe for analysis

A standard timeframe for a CBA input to a Commonwealth RIS is ten years. However, there is precedence for examining a longer timeframe when there are longer term benefits (in this case industry development) such as for Country of Origin Labelling. Additionally, there is expected to be a fairly significant transition period for these regulatory options – both reflecting the significant policy and legislative work to be done, but also that it can take up to three years for industry to be able to be compliant with an organic standard, so a transition period for industry will be required.

As such, the analysis in this report examines two key timeframes:

- a **ten-year period** which reflects two years of government policy work to get to an announceable and legislated standard, a three-year industry transition period to enable all industry to get certification if they choose to market their products as organic and then five years of operations under the mandatory standard
- a **twenty-year period** with the five years of preparation and transition above and fifteen years of operations under the mandatory standard.

Analysis of the non-regulatory options is also presented over the same timeframes but we note that implementation can occur earlier. Therefore, we assume that in year zero education materials are developed, and then consumer information improves from year one onwards.

Therefore, core results of the net present values (NPV) and benefit cost ratios (BCRs) are presented in both ten-year period and twenty-year periods.

4.3 Core assumptions and sensitivities

All costs and benefits are estimated as incremental above the base case.

As shown in Table 4 some costs and benefits are included in core analysis and some are tested as sensitivities. Sensitivities are generally included where the cost or benefit is uncertain in how or if it will be realised. This is also discussed under the costs and benefits in following chapters.

In addition to sensitivities of including certain costs and benefits, and the timeframes discussed above, we have also included the following sensitivities in our analysis:

- discount rate sensitivities – core analysis is discounted at 7 per cent in line with OBPR guidelines, with sensitivities at 4 per cent and 10 per cent
- volume sensitivities – where there is uncertainty in current state or expected growth of level of activities (see section 7.2 for further detail)
- other parameters with significant influence – especially those that underpin the major benefits – including willingness to pay for organic products and growth rates
- cost – a plus/minus of 20 per cent is considered as so many unknowns still exist.

4.4 Volume forecasts

Volumes of organic activity have been used to quantify the costs and benefits within this CBA. The different types of volumes that drive these calculations include the:

- value of organic products made in Australia – split by product, certified and uncertified, and eventual market of domestic or export

- value of organic products consumed in Australia – split by product, certified and uncertified, and origin of domestic or import
- number of organic producers/processors in Australia – split by product, certified and uncertified
- number of organic exporters in Australia – split by product
- number of organic certifiers in Australia.

Each of these metrics were estimated to establish the current state. These metrics have then been forecast for the base case and each option (noting that volumes for options cannot be forecast without reference to specific benefits explored in section 5).

However, there are limitations in the available information around these volumes – although some of these have been addressing in the work leading up to this CBA – especially in the KG2 survey and Have Your Say industry survey, as well as the survey to certifiers.

In determining the volume of organic activity, we have made the following assumptions:

- Estimates of current total volume of organic activity (in terms of dollar value of products consumed and total number of producers and processors) drew on the main sources of the *Australian Organic Market Report 2021*, IBISWorld reports and the KG2 producer survey.
- All values are estimated as final consumption (to Australian households or export). This means the total value may be significantly more than the primary production value, (for e.g. \$x of organic soybeans may eventually be sold as \$y of organic soymilk once passed through, and value added from a processor, wholesaler, and retailer).
- Where IBISWorld, the *Australian Organic Market Report 2021*, or KG2 data have indicated sales not directly to consumers of organic products, we have added margins and average value added from ABS and RBA sources.
- We have split organic activity into five product categories: meat and all animal products, fruit and vegetables, wine, other food and beverage and non-food and beverage. This allowed us to reflect the varying levels of current certification and export volumes across organic products, as well as allowing us to analyse the impact of sub-options under Option 1.
- The total domestic and export production value for all food products has been sourced from IBISWorld.
- We assumed that the IBISWorld organics cosmetics and toiletries estimate makes 50% of all organic non-food products (with pet food and fibre making up the majority of remainder with other miscellaneous products).
- Proportion of organic products from supermarkets has been sourced from IBISWorld and the *Australian Organic Market Report 2021*.
- The proportion of certified organic operators was sourced from the KG2 survey.
- Uncertified operators have not been assumed to be inorganic.
- Size of business has been sourced from KG2 and ABS data.
- The proportion of incorporated business has been sourced from ABS data.
- The base case growth assumptions have been sourced from IBISWorld.
- We have assumed that growth in the base case is an even split between existing and new operators.
- Numbers of exporters have been estimated using KG2 and *Have Your Say* survey data.
- Information from IBISWorld and the KG2 survey has been used to identify the proportion of organic products sold in supermarkets versus other retailers.
- The proportion of certified versus non-certified products is skewed towards supermarket sales, where a higher proportion of certified products has been assumed.

Benefits

5

5.1 Reduction in regulatory burden for exporting organic operators

The following benefit captures the expected reduction in regulatory burden for current exporting organic operators.

Where equivalency has not been negotiated, Australian operators are required to pursue certification via a private standard which has negotiated a conformity agreement. Alternatively, where equivalency has been achieved, operators can pursue certification in accordance with the National Standard. Given these varying requirements, suppliers need to be notified of, participate in, and provide information to obtain multiple international certifications to export products to an array of countries. Based on the existing framework, supplier groups have expressed being discouraged and overwhelmed by the burden of undergoing multiple checks and audits (where required) to obtain these certifications.

Industry participants have stated that a reduction in these costs will allow for operators to redirect resources to pursue more commercial opportunities. Representatives from the Animal Products industry reported that under the current system, products must meet both Australian organic certification standards and international requirements. Other nations do not provide equivalence for certification of the Australian standards and that as a result, new certification for international standards must be obtained. Based on the experience of the industry representatives, this is considered to be a more drawn-out process than equivalency and is also associated with a significant cost burden in the many checks required in this approach, especially with some verification processes needing to be run in parallel. The representatives went on to emphasise that the significant costs to this process results in businesses having to forego commercial and growth opportunities overseas.

The benefit of enacting a mandatory standard through legislation is quantified as the cost foregone by organic operators of holding multiple certifications domestically and internationally. It is assumed to be realised by exporting producers and processors across the sectors captured under Options 1.1 to 1.4 once a mandatory standard has been introduced.

Under the regulatory options, a single mandatory standard is expected to outline a common protocol for auditing and verifying a domestically sold product. This standard, as demonstrated in previous cases in other countries, is expected to form a robust basis against which equivalency arrangements can be formed between Australia and countries receiving Australian exports²⁴. We have assumed that the standard will negate the need for organic operators to pursue multiple certifications and will therefore minimise the number of verification processes to be undergone and overall investment required for exporting Australian organic products internationally. Under the current system, products must meet both Australian organic certification standards and international requirements. Industry representatives report that where other nations do not provide equivalence of the current Australian standards, new certification for international standards must be obtained. This leads to a more drawn-out process, resulting in a significant cost burden to operators to satisfy international checks. These significant costs are reported to determine whether businesses have to forego commercial opportunities overseas.

This reduction will thereby lead to a cost saving for exporting organic operators who currently exist within the market (as new entrants only incur regulatory burden under the new scheme).

We have assumed that exporting organic operators who hold more than one certification will realise a reduction of approximately 20 per cent in the number of international certifications they are required to hold under a mandatory standard.

The direct certification costs are estimated from information gathered from certifiers in the certifier survey and indirect certification costs are estimated as \$900 per certification (consistent with previous desktop CBA).

These benefits are assumed to begin from year seven. This is a consistent assumption for all export related benefits as it assumes equivalence cannot be contemplated until the full scheme is implemented (in year five) and there will be some delay between domestic implementation and achievement of equivalence.

²⁴ Government of Canada (2020)

The benefit is assumed to be consistent across all regulatory options but notes that there is more risk to achieving equivalency with a small scope of the domestic standard. No benefit is realised in the non-regulatory option.

The result of this quantification is shown in Table 5.

Table 5 Reduction in regulatory burden for current exporters, incremental to base case - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Nominal estimate for first year of benefit (year 7)	0.4	0.4	0.4	0.4	0.0
Ten-year present value (7% discount)	0.7	0.7	0.7	0.7	0.0
Twenty-year present value (7% discount)	2.5	2.5	2.5	2.5	0.0

5.2 Export market access (and sales) for new organic exporters

The following benefit captures the expected increase in exports sales for operators who are yet to access the exports market.

Exports of organic Australian products has increased significantly over the last 10 years (for example, IBISWorld estimates of organic farming exports in dollar terms are over ten times larger than a decade ago).²⁵ Growth is expected to continue as disposable income increases and consumers become more health conscious, particularly after the impacts of COVID-19. However, exchange rates and other pressures are expected to hamper growth in percentage terms.

Notwithstanding the opportunity generated by this demand, the potential for the industry to continue to grow its participation in global markets is made uncertain by the current lack of domestic regulation. Industry representatives report that this is particularly discouraging for potential new entrants to the organic export market as additional certification may stunt market growth, industry access and sales as a result.

The introduction of a mandatory standard is expected to reduce the cost burden and promote better access to new entrants to access the export market through equivalency arrangements.²⁶

Under all regulatory options, the risk of participation, specifically the risk of failure in attempting entrance into the export market, is lessened due to the cost savings an operator will experience through eased access to equivalency arrangements and involvement under one single audit and verification protocol.

The benefit itself is quantified based on the number of current organic operators willing to export, the reduced risk of accessing the market for these operators and the increase in sales these operators are expected to experience. As one of the less certain benefits – this has been quantified but included as a sensitivity. The estimate is included in Table 6. Specifically, this estimate incorporates:

- the assumption that 46 per cent of current export hindrances could be addressed by equivalence (based on the proportion of respondents to the Have Your Say survey) and that those regulatory costs would be reduced by 20% consistent with benefit above
- the assumption that 13 per cent of current producers are significantly considering exporting in the near future (based on proportion of the respondents to the Have Your Say survey).

These benefits are assumed to begin from year 7. This is a consistent assumption for all export related benefits as it assumes equivalence cannot be contemplated until the full scheme is implemented (in year 5) and there will be some delay between domestic implementation and achievement of equivalence.

²⁵ IBISWorld

²⁶ ABC News (2021)

The benefit is assumed to be consistent across all regulatory options but notes that there is more risk to achieving equivalency with a small scope of the domestic standard. No benefit is realised in the non-regulatory option.

Table 6 Market access for new exporters, incremental to base case - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Nominal estimate for first year of benefit (year 7)	6.5	7.6	6.5	7.6	0.0
Ten-year present value (7% discount)	12.0	13.9	12.0	13.9	0.0
Twenty-year present value (7% discount)	48.7	56.2	48.7	56.2	0.0

5.3 Increased export opportunities for existing organic exporters

The following benefit captures the increased export opportunities for existing organic exporters.

Currently, organic operators may participate in export markets where their products are certified under an equivalency (negotiated by government) or conformity agreement (based on a private standard). While both of these avenues are available for operators, industry has indicated that the ease of accessing a specific organic export market (i.e. country) for an existing exporting operator is largely dependent on whether an existing ‘equivalency’ agreement exists with the country in question. If so, certification obtained domestically by an operator can be utilised to access that international market. If not, operators need to adopt additional certification schemes which are used and recognised overseas, resulting in an additional cost to the operator.

Under equivalency arrangements which rely on the existence of a mandatory standard, it is assumed that Australian organic exporters will only need to adhere to one certification scheme (where equivalency is achieved). This would lead to less certification and administrative costs being placed on existing Australian organic exports, freeing up resources for exporting operators to realise and pursue commercial opportunities internationally, particularly those that were previously considered unviable. It is anticipated that these increased export opportunities may relate to the United States and South Korea in the foreseeable future, as historically these countries were not open to negotiating an equivalency agreement without Australia having a mandatory standard in place.

This benefit is the most uncertain as it depends on the behavioural change from current exporters (who are already able to overcome current regulatory burdens to enter some markets) to access new markets which there is limited evidence to use as the basis of assumption. As such, this benefit is not included in the core analysis, but rather is quantified as a break-even sensitivity (i.e. the proportional increase required to account for costs).

5.4 Lower market concentration risk due to export market diversification driven by enhanced equivalence

A mandatory standard is expected to have a flow-on effect on the market by minimising market concentration risk and improving access to a diverse pool of business supply chains. Market concentration refers to the distribution of a given market among participating companies. Market concentration risk refers to the probability of loss due to overreliance of a business on other businesses or a specific market segment to drive the sale of products or services.

Under the current non-regulatory framework, organic operators are restricted in the pool of businesses from which organic inputs can be supplied and to which organic products can be provided as inputs to. Enhanced equivalence is expected to create opportunity for Australian organic operators to reach more overseas markets and supply chains and by extension mitigate market concentration risk. With the introduction of greater export market access, Australian organic operators will be able to select from a more diverse and larger breadth of supply chains.

In cases where the Australian organic market experiences economic shocks brought on by events outside the control of operators such as bushfires and floods, exposure to low market concentration risk culminates in operators being able to remain viable and profitable by redirecting business efforts towards overseas suppliers, vendors, and distributors.

This benefit is implied based on the quantitative findings for other benefits namely those pertaining to increased export market access for new entrants and increased export opportunities for existing organic exporters (see above). However, the

benefit itself is addressed qualitatively as the extent to which it is applicable to organic operators is unclear and cannot be quantified accurately.

5.5 Increased producer surplus from greater consumer confidence

Consumer confidence and confusion has been identified as an issue effecting the efficiency of the current market and one which is expected to have negative impacts on the market into the future if not addressed. These negative impacts are expected to stem from a lack of integrity and consumer confidence, caused by a market failure where a product claiming to be organic cannot be substantiated.

Current consumer confidence around organic products sold within the market is reflected within the following market evaluations. An independent consumer survey administered by PwC indicated that most consumers were unsure if the labelling of organic products is an accurate reflection of the products nature (62 per cent).²⁷ This finding is also reflected across research conducted by industry participants. The *Australian Organic Market Report 2021* states that 31 per cent of organic shoppers believe they have been misled by organic claims.²⁸ This demonstrates that a significant number of consumers are skeptical about the integrity of organic claims.

This is further corroborated through consultation from industry with stakeholders emphasising that ambiguity in the use of the term organic can result in potential flow on effects in increasing the risk of diminishing consumer confidence and affecting the performance of existing certified products and producers. An industry representative pointed out that if inappropriate use of the term organic persists, consumer confidence may erode to such a point that it would impact the domestic organic market.

While a level of consumer skepticism exists around the breadth of organic claims, consumer appetite for organic products which can be verified organic reflects there is a direct benefit to the market where consumer trust can be maintained. The most common response amongst participants regarding the purchase of organic products was that they would reconsider purchasing organic products if there was more information reported on them (39 per cent).²⁹ Further, research conducted in 2021 by the Mobium Group found that 80 per cent of shoppers are pre-disposed to consider an organic food option if their barriers were addressed.³⁰

This information asymmetry means that consumers cannot confidentially tell the difference between a 'truly' organic product and product that does not meet the same standard. For producers this dilutes their ability to access an organic price premium and for consumers this means they are not able to make choices to maximise their utility. In economic principles, this is described as the market for 'plums' being diluted due to the presence of 'lemons' that should not attract the same price as 'plums' but a consumer cannot distinguish between the two products in the current information. The sale of both 'lemons' and 'plums' as equivalent products is suggested to be the primary reason for market inefficiency and reduced consumer confidence. This is concept is shown in Figure 2 – when consumers are able to tell the difference between the two products, both have to sell at the same price (P3), but with sufficient information, consumers would be willing to pay more (P5) and consume more plums (Q4 up from Q3). In the lemon market, the opposite is true if consumers fully understand what they are purchasing in that they will stop paying the previous premium and consume less. It should be noted that in Figures 2,3 and 4, a horizontal demand curve has been assumed for simplicity.

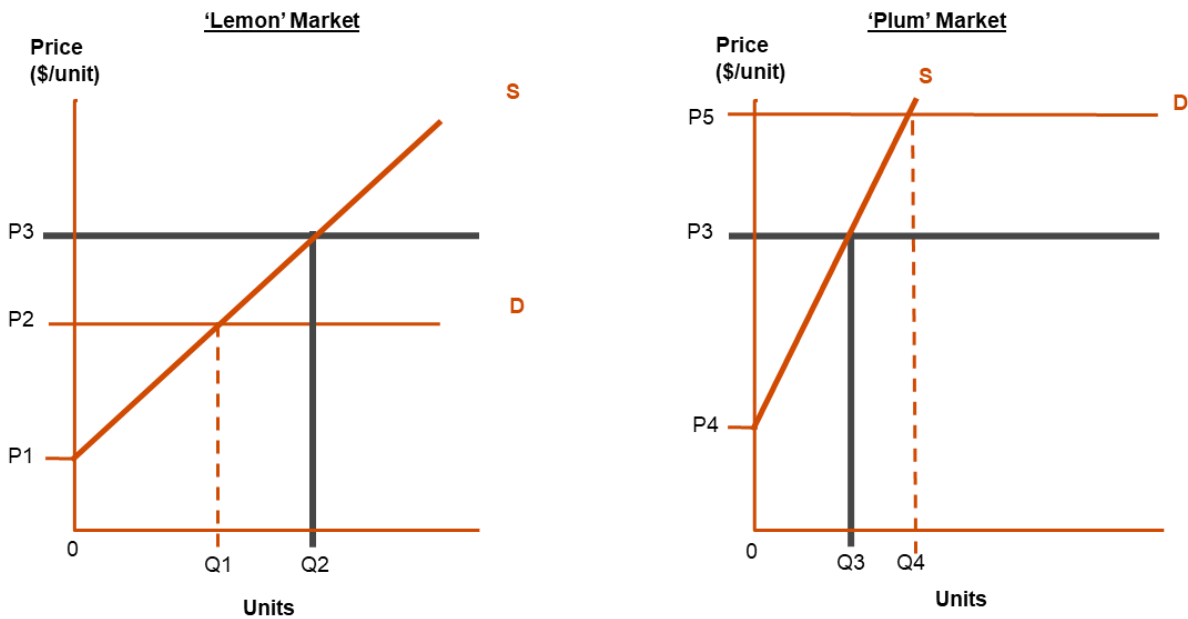
²⁷ PwC Consumer Survey (2022)

²⁸ Australian Organic Limited, Australian Organic Market Report (2021), pg. 45pp. 9.

²⁹ PwC Consumer Survey (2022)

³⁰ Australian Organic Limited, Australian Organic Market Report (2021), pg. 30

Figure 2 Supply and demand in a 'lemon' and 'plum' market

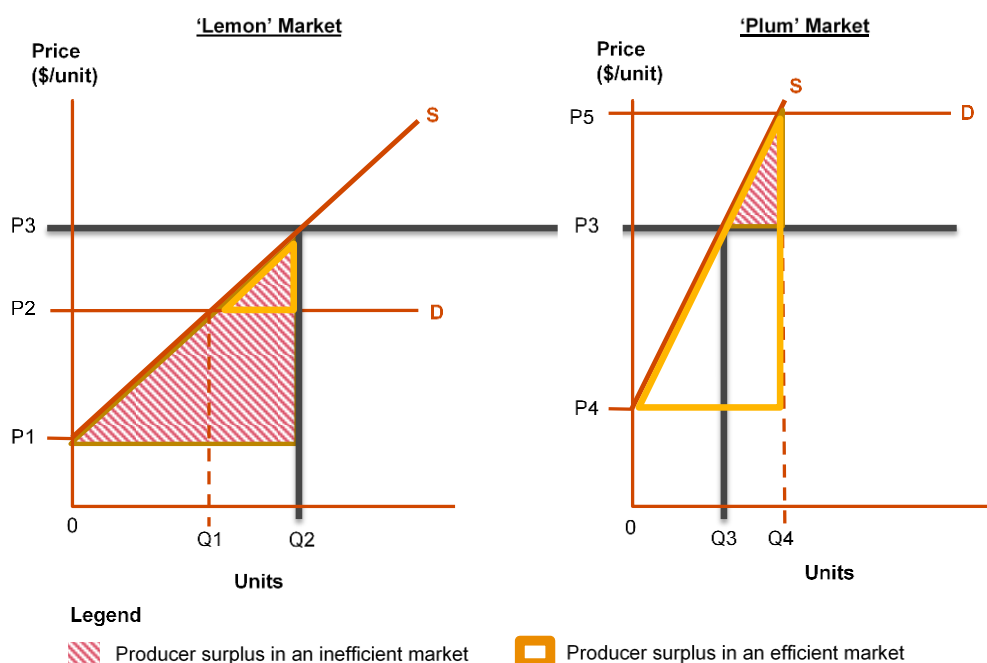


**It should be noted that the above figure is stylised and intended to be used for demonstration purposes only.*

Figure 2 shows a move from no possible differentiation between products to perfect information. In practice, there is currently some information available to consumers and the introduction of a mandatory standard is expected to minimise the availability of products with unsubstantiated organic claims in the organic market but is unlikely to ever get to complete consumer trust. Specifically, our modelling has assumed that currently 58 per cent of consumers trust organic claims (from our consumer survey) and this will increase only marginally to 60 per cent with the non-regulatory option and up to 75 per cent in regulatory options including only food and 80 per cent for regulatory options including all products. For the regulatory options this is assumed to be a sustained impact, but for the non-regulatory option the benefits are assumed to diminish with the amount of time since new consumer information became available and is viewed.

The quantification of the benefit of this move is split between producer and consumer surplus. The change in producer surplus (from no information to perfect information) is shown in Figure 3.

Figure 3 Producer surplus in a 'lemon' and 'plum' market



*It should be noted that the above figure is stylised and intended to be used for demonstration purposes only.

The producer surplus is calculated using the following assumptions:

- **Willingness of consumers to pay:** Based on the independent consumer survey administered by PwC, a consumer’s willingness to pay for an organic product under a framework which boosts consumer confidence, totaled 12 per cent on average (the difference between the lemon and plum price in an efficient market).
- **Difference in margin between organic and non-organic products:** An assumed higher cost of production for organic products is adopted to set the minimal supply curve.
- **Increased certification:** We hence assumed that the increase in volume in the certified market will be made up by uncertified operators becoming certified in the short term and in the long-term higher growth for all certified (new and existing) operators will be possible in a more efficient market.

The change in volume by product category is then calculated accounting to the lemon and plum market transition dynamics above and the change in producer shown in Table 7. This calculation assumes that the increase price premium from increased trust is able to be captured by producers. It is noted that in some settings (particularly supermarkets) individual producers may not have full bargaining power to set prices and access premiums. While this is a risk to this benefit, it has not explicitly been captured, assuming that it would have a corresponding increase in consumer surplus (discussed below).

This benefit begins from full system implementation (year 5 for regulator options and year 1 for the non-regulatory option).

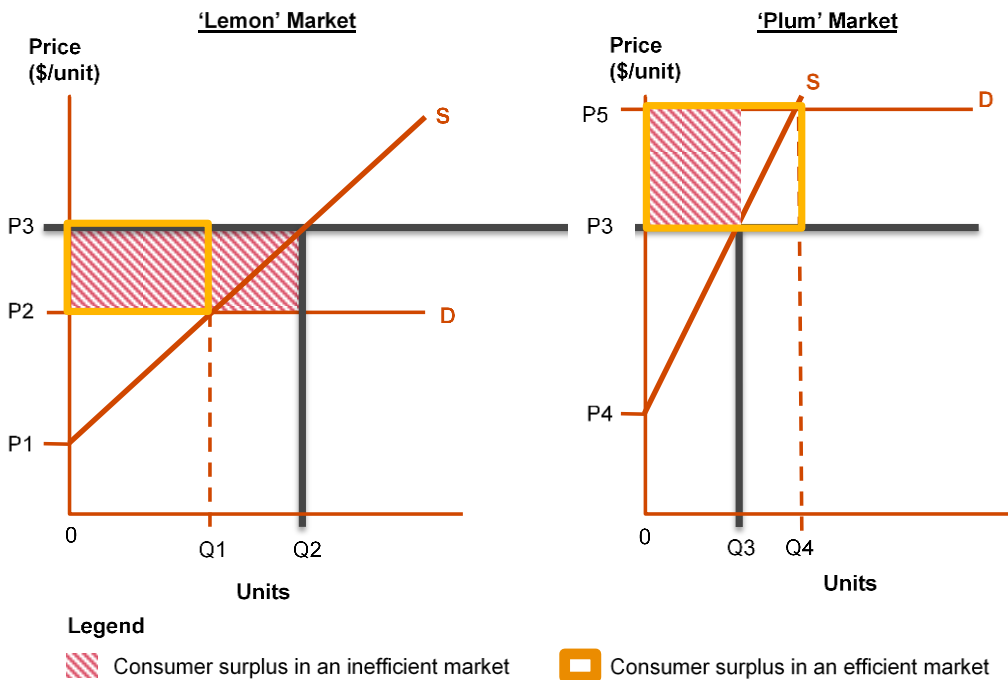
Table 7 Change in producer surplus, incremental to base case - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Nominal estimate for first year of benefit	13.6	17.6	13.5	17.4	0.9
Ten-year present value (7% discount)	49.3	64.1	49.0	63.5	5.0
Twenty-year present value (7% discount)	153.9	201.6	153.1	200.0	5.1

5.6 Increased consumer utility from improved certainty and confidence

As per the discussion above for producer surplus, under better information consumers can also increase their surplus and maximise their utility by making more informed consumption choices. Figure 4 below shows the change in consumer surplus from no product differentiation to perfect information.

Figure 4 Consumer surplus in a lemon and plum market



**It should be noted that the above figure is stylised and intended to be used for demonstration purposes only.*

The assumptions to estimate the consumer surplus change are the same as for the producer surplus above. The results are shown in Table 8.

Table 8 Change in consumer surplus, incremental to base case - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Nominal estimate for first year of benefit	5.3	6.4	6.7	7.4	0.2
Ten-year present value (7% discount)	17.4	21.1	22.2	24.7	4.7
Twenty-year present value (7% discount)	44.6	54.3	57.3	64.1	4.8

5.7 Lower certification costs for existing certified operators

Introducing a mandatory requirement for certification will engage more organic operators with certifiers. With increased volumes of producers and processes getting certified (as shown in volumes increasing in a 'plum' market above), it is possible that new certifiers enter the market and certifiers will compete more and will be compelled to reduce the price of certification rates. However, it is also possible that as these certifiers now offer a more essential service (with a built-in market) that certification prices increase. As such, no change in certification prices is assumed in the core analysis, with this benefit being tested as a sensitivity.

5.8 Reduced cost of equivalence negotiations for government

Based on the likelihood of operators pursuing equivalence arrangements and the general industry appetite for pursuing these arrangements, a reduced cost to government may be realised.

Potential cost savings may be realised as reduced trade interactions or trade-related exchanges between the Australian Government and foreign governments. The inputs of this cost saving work on the assumption that firstly, government will experience efficiencies in the cost of negotiation and the time taken to negotiate under a mandatory standard and secondly, that operators will be more likely to pursue equivalence and that the likelihood of achieving equivalency will improve.

However, the extent to which these efficiencies may be realised is dependent on a number of variables which will differ subject to the country equivalence negotiations are being undertaken with. As a result of these uncertainties, this benefit has been considered qualitatively.

Recent developments between New Zealand and China have led to a mutual recognition arrangement whereby China will now acknowledge New Zealand's organic standards. Under this arrangement, China and New Zealand have reached a common understanding of the standard to which organic products are held, requirements for certification and supervision of organic production. The future implications of this is that organic products imported into China from New Zealand will not be required to meet Chinese Organic Certification and may claim 'organic' on packaging and labels.

This may represent a significant cost saving to the New Zealand Government as there is potentially less need to reallocate resources for short-term negotiations with overseas governments and government organisations to facilitate the trade of organic products. It can be expected that cost savings will be realised due to an overall reduction in the number of trade-related exchanges regarding organic products, the costs realised to eventuate trade arrangements and the resources utilised during exchanges which are ultimately unsuccessful.

5.9 Environmental benefits of organic products

The National Standard defines 'organic' as the application of practices which emphasise the use of renewable resources, conservation of energy and environmental maintenance and enhancement³¹ As it is voluntary for industries to follow this standard, the environmental benefits of producing organic can vary from product to product and operator to operator.

An example of this includes the organic practices adopted by small businesses. Consultations with stakeholders indicated that small organic businesses generally do not have formal certification to demonstrate that their products are 'organic'. Rather, they are known to follow organic practices defined by their advertised ethos and set of business practices, relying very little on Australian certification as proof that a product is 'organic'. As a result, small organic businesses vary in the practices followed to produce and process organic products.

Common or reoccurring potential environmental benefits identified by industry and stakeholders include improvements to soil health, reduced soil degradation and increased biodiversity. Practices such as the application of longer crop rotations and organic matter have been claimed to reduce soil erosion and maintain microbes in the soil, both of which are aspects contributing to sustainable land use. As organic production is informed by sustainable practices which discourage the use of pesticides and encourage the use of seminatural landscape elements such as hedges, the land used for organic agriculture and surrounding land are considered to be more biodiverse. Furthermore, organic production has been evidenced to utilise less energy per unit of land in comparison to conventional agriculture production.³² However, differences in organic practices between sectors also demonstrate that the type and extent of environmental benefits from an organic product can vary.

However, we acknowledged that, while organic operators may favour some environmental practices, it is unlikely to be in any way mandated in the final standard which will be defined on the use of synthetic chemicals. As such, it could be seen

³¹ Department of Agriculture, Water and the Environment (2019)

³² Eva-Marie Meemken & Martin Qaim (2018)

that a mandatory standard will not require any change in environmental practice and therefore no environmental benefits have been quantified in the core analysis. However, if the potential to access export markets or an increased domestic price premium induces new operators to enter the organic market, and those new operators adopt the environmental practices of an 'average' organic operator, this may result in environmental benefits. The realisation of this benefit will depend on the market dynamics of which operators stay in market and the quantum of new entrants.

5.10 Better availability of data and information regarding the market

Industry consultation has indicated that the introduction of a mandatory standard may result in better available data and information regarding the organics market. Mandatory certification will require all organic operators to interact with some part of the regulatory system and data management can be built into regulatory frameworks.

Most industry participants share the view that data and information improvements are critical for industry growth. Participants note that industry representatives do not have a record of certified organic members, and that as a result, it is difficult to monitor the organic practices of existing organic operators. Furthermore, this information gap is reported to extend to a lack of information around the trading practices of organic goods, the tracking of organic product inputs during production and an understanding of the general depth of the market.

Improvements to the circulation of common practices of organic producers is expected to be encouraged under a mandatory standard with the introduction of mandatory reporting, audit and verification of organic operators. Such data and information is anticipated to provide better detail for operators to determine how best to operate within the organics market and meet consumer expectations, in turn leading to better quality supply and consistent consumer demand, due to improved consumer confidence in the market.

Better data will also be valuable to regulators in being able to most efficiently target risk in their activities.

Despite acknowledging these benefits for industry and government, the magnitude is not able to be quantified in this analysis.

5.11 Health benefits of organic products

Industry and consumers have indicated the potential for organic products (especially food) to have health benefits for consumers through the reduced use of pesticides, artificial fertilizers, and other synthetic substances. Organic food has been reported to contain lower levels of pesticides, as well as higher levels of metabolites and other nutritionally desirable ingredients³³ Possible health effects from consuming organic foods may include lowered risk of allergies and reduced rates of weight-related complications. Furthermore, the use of nitrates is more limited in organic production compared to conventional farming methods, which is believed to contribute to reduced exposure to illnesses such as cancers.

If there is increased consumption of organic products under a mandatory standard (as explored in the 'plum' market above), this could increase this health benefit.

However, the evidence of a health benefit from organic consumption is sparse and has not been considered sufficient to quantify in this analysis.

³³ Eva-Marie Meemken & Matin Qaim (2018)

Costs

6

6.1 Increased regulatory burden and compliance costs for domestic operators

With a mandatory standard, it is expected that currently uncertified operators will become certified (as per 'plum' market discussion above) and incur the direct and indirect costs of certification. Additionally, it is assumed that all domestic operators (those currently certified and uncertified) will incur costs to change their labelling (to either reflect the mandatory requirements or review organic terminology).

It is expected that such costs will primarily impact uncertified organic operators as they are yet to undertake the certification process. This process is anticipated to be more demanding in the first year of introduction (year 5), however, certification is assumed to be less disruptive in later years as operators become more knowledgeable about the certification process and what it requires. Certified operators are also expected to be affected, albeit to a lesser extent, through labelling costs.

The increased regulatory burden and compliance costs for domestic operators under each option has been captured under Table 9. In reaching these estimates, the following inputs have been considered:

- **Number of newly certified operators:** This is calculated in line with the 'plum' market benefit explored above – with the increase in the volume of certified products (both through certification of previous uncertified products and new producers entering the market).
- **Certification cost:** We have assumed that the mandatory standard would require each operator to obtain Australian certification for organic products. Only uncertified organic operators are expected to incur certification costs as an additional cost following the introduction of a mandatory standard as certified operators would be incurring these certification costs regardless. The direct cost of certification, from a certifying body is classified to be the cost incurred by an operator to hold certification for one year. This was estimated to be \$1,150 per uncertified organic operator.³⁴ Indirect costs are identified as the ancillary costs of certification, including administration and consultation. This was estimated to be \$2,167 per uncertified organic operator.³⁵ Both direct and indirect costs have been estimated on a per uncertified operator basis.
- **Labelling costs:** Labelling costs are relevant costs incurred by both certified and uncertified organic operators across all regulatory options, where an optional government-endorsed logo is to be introduced. A labelling change is only incurred by operators who are in the organics market (certified or uncertified) in the base case. An operator induced into the market by increased opportunities through the clarity in consumer demand or export opportunities afforded by a regulatory option is assumed to design compliant labels from their initiation and require no change. The cost of labelling was determined based on a conservative estimate of cost for processors for implementing what is identified as a 'medium' label. This was assumed to be \$6,603 per operator for packaged products (all products except fruit and vegetables) and \$1,374 per operator for unpacked fruit and vegetables.³⁶

In line with the benefits flowing from change in information, the certification costs are assumed to begin in year 5 for regulatory options and year 1 for non-regulatory and be ongoing. Labelling costs are only incurred in the regulatory options and are assumed to one off in year 5.

Overall, the cost of compliance for uncertified businesses was determined to be higher than the costs incurred by certified businesses due to differences in experience and existing processes for obtaining certification and labelling.

³⁴ Deloitte Access Economics (2021)

³⁵ Deloitte Access Economics (2021)

³⁶ Referencing PwC 'Cost Schedule for Food Labelling Changes' (report commissioned by the Department of Health April 2014)

Table 9 Increased regulatory burden and compliance costs for domestic operators, incremental to base case - \$ million

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Nominal estimate for first year of cost (certification)	15.1	14.7	14.9	14.7	0.0
Nominal estimate for single year of cost (labelling)	3.2	3.6	3.4	3.6	1.8
Ten-year present value (7% discount)	21.4	25.9	22.1	27.2	9.1
Twenty-year present value (7% discount)	38.2	44.9	40.0	46.1	9.3

6.2 Transition costs for domestic operators

The cost of transition is defined as the investment of organic operators' time in reading and understanding the mandatory standard under all regulatory options. The cost is structured on a per organic operator basis and is assumed to be comprised of one-off costs incurred in the first year of implementation. It should be noted that costs incurred by industry to implement changes to comply with the standard is not included in this cost as this cost is captured above.

In reaching this estimate, the following inputs have been considered:

- **Cost of transitioning per operator:** The cost has been determined on a per organic operator basis and is assumed to be a one-off cost incurred in year 5. The cost of transitioning is based on the minimum wage rate of \$20.74³⁷. It has been assumed that for a currently certified operator the time taken to read and understand the standard will be one day (eight hours) and for a current uncertified operator this will be two days (16 hours).
- **Number of operators:** As mentioned previously, this is assumed to move with volumes solved for in a 'plum' market (see section 5).

As this cost is associated with understanding the mandatory standard, there are no costs in Option 2.

Table 10 Transition costs for domestic operators, incremental to base case - \$ million

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Nominal estimate for single year of cost	0.5	0.6	0.6	0.7	0.0
Ten-year present value (7% discount)	0.4	0.4	0.4	0.5	0.0
Twenty-year present value (7% discount)	0.4	0.4	0.4	0.5	0.0

6.3 Implementation of a mandatory standard – policy, standard and legislative design

This cost represents the initial cost to government of setting up the mandatory standard scheme for implementation and is expected to occur over two years during the development of the mandatory standard and prior to industry adaption (i.e. year 0 and year 1). It should be noted that the cost reported, like all costs to government, is indicative only and may be subject to variation with future development of, and change to, policy considerations. Sensitivity analysis has been conducted to investigate the effects of fluctuations in this cost. Further, costs have been developed and confirmed during consultation with DAWE and other relevant agencies by benchmarking against the costs incurred by other new regulatory regimes.

Implementation of a mandatory standard at the policy, standard and legislative design phase will consist of the following activities:

- conducting work to construct and finalise the mandatory standard including content reviews and public consultations

³⁷ Fair Work Ombudsman (2021)

- legislation activities including obtaining legal advice, drafting and consultations
- establishing final costs and cost recovery arrangements
- establishing the DAWE team and functions
- design of the logo and/or wording of government labelling and the policy surrounding this.

The following inputs have been considered in the estimation of this cost:

- **Staff costs:** It is assumed that a dedicated team of professionals (with additional input from external teams such as a legal) will be responsible for the implementation of a mandatory standard. Discussions with DAWE have confirmed that the team is expected to consist of over 40 staff members, across APS, EL and SES positions. Notwithstanding this initial expectation, the size of the team remains indicative and may vary as policy considerations continue to develop. In order to investigate deviations in this estimate all government costs have been tested as a sensitivity.
- **Non-staff costs:** Substantial non-staff costs (several millions of dollars per year) have also been accounted for in this cost to acknowledge the cost of setting up relevant IT systems and the cost of external advice and consultation required for legislation drafting.

This cost is higher than what was factored for within the desktop CBA undertaken previously (\$6.6 million total over two years), due to recent policy design work and more detailed work within DAWE to compare to other programs to understand the level of effort required.

More sectors and operators are captured under a mandatory standard when investigating Options 1.2 and Option 1.4. The resulting increase in the diversity of operators requires for implementing and constructing legislation with more nuance and flexibility. Based on this we can assume that under these options the size of the DAWE team will be larger and/or the hours invested will be higher. No difference in implementation costs is expected regardless of whether small businesses are included in the scheme as the scale of activities is not expected to be affected. Therefore, for Options 1.2 and 1.4 which includes both non-food and non-beverage sectors, it is assumed that the cost of implementation will be 5 per cent higher than Options 1.1 and 1.3.

Table 11 Implementation of a mandatory standard – mandatory standard design costs, incremental to base case - \$ million

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Nominal estimate for first year of cost (year 0)	9.5	10.1	9.5	10.1	0.0
Ten-year present value (7% discount)	18.5	19.5	18.5	19.5	0.0
Twenty-year present value (7% discount)	18.5	19.5	18.5	19.5	0.0

6.4 Implementing a mandatory standard – taskforce during industry transition

During the transition period (years 2, 3 and 4) there is expected to be continuing government work in supporting industry to prepare for the mandatory standard to come in to force. It should be noted that the cost reported, like all costs to government, is indicative only and may be subject to variation with future development of, and change to, policy considerations. Sensitivity analysis has been conducted to investigate the effects of fluctuations in this cost. Further, costs have been developed and confirmed during consultation with DAWE and other relevant agencies by benchmarking against the costs incurred by other new regulatory regimes.

The following inputs have been considered in the estimation of this cost:

- **Staff costs:** As is expected in the policy, standard and legislation design phase, it is assumed that a dedicated team of professionals, with additional input from external teams, will be responsible for assisting industry in the

transition to a mandatory standard. The scale of this team was discussed with DAWE. The team is expected to consist of over 40 staff members across APS, EL and SES levels. It should be noted that this expected size of the team is indicative only and that fluctuations in costing may arise as policy considerations continue to develop. Sensitivity testing across all government costs will investigate the impact of changes to this cost.

- **Non-staff costs:** Non-staff costs are also expected to be incurred in the transition phase and have been incorporated in this cost (of \$1 million per year).

This cost was not initially factored for within the desktop CBA, which did not incorporate a transition period for industry and therefore is completely net new compared to that analysis. However, the recent policy design work has established both a need for a transition period between design of the standard and full implementation, as well as the significant work required from government during that period to support industry towards compliance. One example examined in policy work was the transition effort required for the Country of Origin Labelling.

It is assumed that the size of the DAWE team will be larger and/or the hours invested will be higher in scenarios where more operators are included. No difference in costs is expected with the inclusion of small businesses since the scale of activities is not expected to be affected. However, in estimating a cost increase, the proportion of the market (i.e. products sold) included under each option was utilised instead of a straight assumption in the increase in costs. As a result, for Options 1.2 and 1.4 which includes both non-food and non-beverage sectors, the cost of implementation is expected to be 21 per cent higher than Options 1.1 and 1.3.

Table 12 Implementation of a mandatory standard costs – transition taskforce costs, incremental to base case - \$ million

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Nominal estimate for first year of cost (year 2)	6.5	7.2	7.5	8.2	0.0
Ten-year present value (7% discount)	16.1	17.8	18.4	20.1	0.0
Twenty-year present value (7% discount)	16.1	17.8	18.4	20.1	0.0

6.5 Risk-based regulation of a mandatory standard

Once the mandatory standard is in place, there is expected to be government activity in risk-based regulation. These costs are expected to occur from year 5 onwards and will reoccur on a yearly basis. It should be noted that the cost reported, like all costs to government, is indicative only and may be subject to variation with future development of, and change, to policy considerations. Sensitivity analysis has been conducted to investigate the effects of fluctuations in this cost. Further, costs have been developed and confirmed during consultation with DAWE and other relevant agencies by benchmarking against the costs incurred by other new regulatory regimes.

Regulating a mandatory standard will consist of the following activities:

- Proactive regulatory activities in auditing and verification of certifiers - the government will regulate the activity of certification bodies by conducting independent investigations of certifiers to ensure integrity in the process.
- The introduction and maintenance of a complaints process for consumers will exist under the legislative option. The team responsible for this function will:
 - manage complaints from consumers who have been misled or negatively impacted by an organic-claim or organic product
 - coordinate to identify and aid in the prosecution of cases where the term organic has been inappropriately used.
- Receiving and issuing risk-based regulation against breaches of regulation, specifically with regards to conducting investigations of organic operators each year.

The following inputs have been considered in the estimation of this cost:

- **Staff costs:** It is assumed that a dedicated team of professionals will be responsible for regulating a mandatory standard. The team is expected to fulfill three functions, namely regulating certifiers, overseeing complaints and facilitating verification audits. Discussions with DAWE determined the level of activity and expertise required under each function. A team of over 40 staff across APS, EL and SES grades was determined to be appropriate (across all functions). As policy considerations continue to be refined, the estimated size and allocation of the team reported in this analysis remains to be indicative. Due to this, initial costs to government are tested as a sensitivity.
- **Non-staff costs:** The complaints process and verification audits is expected to incur a cost of over \$1.5 million in non-staff costs associated with managing complaints on the topic of consumer-facing and legal issues. Relevant activities to fulfill this function may include informing the public and industry on the complaints process, providing access to make a complaint and researching a complaint once filed. Legal costs associated with investigating and pursuing complaints are expected to incur an additional \$1 million per year (incurred for the initial five years of full regulation when major test cases are assumed to occur).

This cost is higher than what was considered in the desktop CBA undertaken previously (\$4.4 million per year), due to recent policy design work.

The exclusion of non-food and non-beverage sectors across Option 1 sub-options is assumed to reduce complexity in regulation activity. The year-to-year cost of regulation is expected to vary based on the number of operators captured under each option. As a result, regulation costs are assumed and estimated to be lower for options which capture a lower number of organic operators.

It should be noted that, based on the findings from consultation with government stakeholders, unincorporated operators would not be captured under the proposed legislated regulatory regime. As a result, unincorporated organic operators were not included when calculating this cost.

Table 13 Risk-based regulation of a mandatory standard cost, incremental to base case - \$ million

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Nominal estimate for first year of cost (year 5)	5.8	6.8	6.0	7.4	0.0
Ten-year present value (7% discount)	18.3	21.3	18.8	23.0	0.0
Twenty-year present value (7% discount)	37.0	43.6	38.0	47.3	0.0

6.6 Maintaining a mandatory standard

Once the standard is confirmed in the initial two years of work, we have assumed that it will require ongoing work to make sure that the regulatory regime remains relevant, up to date and meets needs of industry and international negotiations. We have assumed that this ongoing work will begin in year 2 (after the initial standard design in the implementation taskforce) and be ongoing. It should be noted that the cost reported, like all costs to government, is indicative only and may be subject to variation with future development of, and change to, policy considerations. Sensitivity analysis has been conducted to investigate the effects of fluctuations in this cost. Further, costs have been developed and confirmed during consultation with DAWE and other relevant agencies by benchmarking against the costs incurred by other new regulatory regimes.

Maintaining a mandatory standard will consist of the following activities:

- providing supporting guidelines, resources, and tools to assist organic operators in complying with a mandatory standard
- keeping the standard up to date and relevant
- addressing industry interactions in relation to the standard.

The following inputs have been considered in the estimation of this cost:

- **Staff costs:** Discussions with DAWE confirmed that a dedicated team of five staff across APS, EL and SES levels would be most appropriate to maintain a mandatory standard.
- **Non-staff costs:** Expected to total \$1 million for costs expended on engaging expert input on policy and regulation-related activities.

We have assumed that resourcing costs will increase by 13% with the inclusion of non-food and non-beverage operators for Options 1.2 and 1.4 based on the number of organic operators included.

This cost is higher than that factored into the desktop CBA undertaken previously (\$0.6 million per year), due to recent policy design work.

Table 14 Maintenance of a mandatory standard costs, incremental to base case - \$ million

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Nominal estimate for first year of cost (year 2)	1.6	1.7	1.6	1.7	0.0
Ten-year present value (7% discount)	9.1	9.5	9.1	9.5	0.0
Twenty-year present value (7% discount)	15.2	16.0	15.2	16.0	0.0

6.7 Implementing an education campaign

Option 2 looks to implement an education campaign which aims to create greater awareness of the current non-regulatory framework for organic products across industry and consumers. This would involve explanation of the current certification process, information regarding the applicability of existing voluntary standards, as well as guidance around labelling. It should be noted that the cost reported, like all costs to government, is indicative only and may be subject to variation with future development of, and change to, policy considerations. Sensitivity analysis has been conducted to investigate the effects of fluctuations in this cost. Further, costs have been developed and confirmed during consultation with DAWE and other relevant agencies by benchmarking against the costs incurred by other new regulatory regimes.

In maintaining a mandatory standard, a level of education will also accompany this regulatory option, consisting of the following activities:

- establishing and maintaining a database of certified products and operators
- developing and maintaining a customer website
- developing and maintaining a fact sheet and other materials.

While this is a core cost under the non-regulatory option, the same costs are also assumed under all regulatory options. Set up costs are incurred in an initial year (year 0 for non-regulatory and year 2 for regulatory) which consist of a small government team and IT and website set up costs. To maintain and update the established resources, a small team and minor non-staff costs are assumed on an ongoing basis.

The following inputs have been considered in the estimation of this cost:

- **Staff costs:** The task of setting up an education campaign was determined (with confirmation from DAWE) to require for a team of five composed of APS levels and leadership from across EL and SES level grades. The cost of continued campaign activities following introduction in year 2, is expected to be attributed to a dedicated team of four staff members across APS, EL and SES levels responsible for maintaining updated educational material for consumers and industry.
- **Non-staff costs:** During the set up stage, the campaign is expected to incur \$1 million of non-staff costs associated with establishing a database and customer website. Following this, allocation of \$100,000 to the maintenance of these systems was also confirmed to be appropriate based on discussions with DAWE.

The minimum total cost is expected to be \$1.6 million in the first year, with an additional \$0.5 million per year going forward (in current undiscounted terms). This cost is lower than what was factored for within the desktop CBA undertaken previously (\$6 million per year) but presents a significantly different scope for an education program given updated policy work.

Table 15 Implementation of an education campaign costs, incremental to base case - \$ million

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Nominal estimate for first year of cost	1.6	1.6	1.6	1.6	1.6
Nominal estimate for ongoing cost	0.5	0.5	0.5	0.5	0.5
Ten-year present value (7% discount)	3.8	3.8	3.8	3.8	3.8
Twenty-year present value (7% discount)	5.8	5.8	5.8	5.8	5.8

6.8 Loss of brand value for existing certifiers

With the introduction of government branding there is potential for differentiation between certifiers to reduce and for those bodies to lose some of their brand value.

Currently, certification bodies are able to differentiate themselves within the market, based on their service offering and service costs. A number of certifiers also have a distinguishable logo available for operators to use on product packaging to communicate to the market that a product is indeed organic in nature. It is anticipated that these logos have some sort of associated goodwill with consumers and operators within the current market.

Under a mandatory standard, where one government-owned and approved logo will be available for operators to use, it is anticipated that existing certifiers will be directly impacted by this policy design, as the use of their specific logo will no longer go towards differentiating the certification services they provide to operators. Rather, bodies will need to find other ways to maintain a competitive advantage and differentiate their services.

Notwithstanding this potential, this cost is not able to be quantified in this analysis and will depend on market dynamics.

Net Impact



In this section we present the estimated net impacts, which brings together the detailed costs and benefits presented in the previous sections.

7.1 Summary of net impact

A summary of the net impact of each benefit and cost across the options has been detailed within Table 16. This shows that when examining only a ten-year period, none of the options reach a positive net impact. This is largely driven by the timeframe and acknowledging that the regulatory options have a 5-year implementation period, meaning they only have five years of benefits in this presentation.

Table 16 Summary of net impact incremental to the base case across each option (ten-year PV at 7% discount rate) – core analysis only

Benefit / Cost		Present value				
		Option 1.1	Option 1.2	Option 1.3	Option 1.4	Option 2
B1	Reduction in regulatory burden for exporting organic operators	0.7	0.7	0.7	0.7	0.0
B2A	Export market access (and sales) for organic operators not currently exporting	Not quantified in core analysis				
B2B	Increased export opportunities for existing organic exporters	Not quantified in core analysis				
B3	Lower market concentration risk due to export market diversification driven by enhanced equivalence	Not quantified				
B4A	Increased producer surplus from greater consumer confidence for organic operators	49.3	64.1	49.0	63.5	5.0
B4B	Increased consumer utility from improved certainty and confidence delivered by mandatory standard	17.4	21.1	22.2	24.7	4.7
B5	Lower certification costs for existing certified operators	Not quantified in core analysis				
B6	Reduced cost of equivalence negotiations for governments	Not quantified				
B7	Environmental benefits of organic products	Not quantified				
B8	Better availability of data and information regarding the market	Not quantified				
B9	Health benefits of organic products	Not quantified				
C1	Increase regulatory burden and compliance costs for domestic operators	-21.4	-25.9	-22.1	-27.2	-9.1
C2	Transition costs for domestic operators	-0.4	-0.4	-0.4	-0.5	0.0
C3A	Implementing a mandatory standard – policy, standard and legislative design	-18.5	-19.5	-18.5	-19.5	0.0
C3B	Implementing a mandatory standard – taskforce during industry transition	-16.1	-17.8	-18.4	-20.1	0.0
C4	Risk-based regulation of a mandatory standard	-18.3	-21.3	-18.8	-23.0	0.0
C5	Maintaining a mandatory standard	-9.1	-9.5	-9.1	-9.5	0.0
C6	Implementing an education campaign	-3.8	-3.8	-3.8	-3.8	-3.8
C7	Loss of brand value for existing certifiers	Not quantified				
Net impact		-20.0	-12.4	-19.1	-14.8	-3.3

Table 17 shows the core analysis but for a longer timeframe, allowing the true benefits of the regulation to build. Essentially, this shows that in a longer-term analysis, all regulatory options return positive net values.

Table 17 Summary of net impact across each option (twenty-year PV at 7% discount rate) – core analysis only

Benefit / Cost		Total present value				
		Option 1.1	Option 1.2	Option 1.3	Option 1.4	Option 2
B1	Reduction in regulatory burden for exporting organic operators	2.5	2.5	2.5	2.5	0.0
B2A	Export market access (and sales) for organic operators not currently exporting	Not quantified in core analysis				
B2B	Increased export opportunities for existing organic exporters	Not quantified in core analysis				
B3	Lower market concentration risk due to export market diversification driven by enhanced equivalence	Not quantified				
B4A	Increased producer surplus from greater consumer confidence for organic operators	153.9	201.6	153.1	200.0	5.1
B4B	Increased consumer utility from improved certainty and confidence delivered by mandatory standard	44.6	54.3	57.3	64.1	4.8
B5	Lower certification costs for existing certified operators	Not quantified in core analysis				
B6	Reduced cost of equivalence negotiations for governments	Not quantified				
B7	Environmental benefits of organic products	Not quantified				
B8	Better availability of data and information regarding the market	Not quantified				
B9	Health benefits of organic products	Not quantified				
C1	Increase regulatory burden and compliance costs for domestic operators	-38.2	-44.9	-40.0	-46.1	-9.3
C2	Transition costs for domestic operators	-0.4	-0.4	-0.4	-0.5	0.0
C3A	Implementing a mandatory standard – policy, standard and legislative design	-18.5	-19.5	-18.5	-19.5	0.0
C3B	Implementing a mandatory standard – taskforce during industry transition	-16.1	-17.8	-18.4	-20.1	0.0
C4	Risk-based regulation of a mandatory standard	-37.0	-43.6	-38.0	-47.3	0.0
C5	Maintaining a mandatory standard	-15.2	-16.0	-15.2	-16.0	0.0
C6	Implementing an education campaign	-5.8	-5.8	-5.8	-5.8	-5.8
C7	Loss of brand value for existing certifiers	Not quantified				
Net impact		69.8	110.3	76.6	111.2	-5.2

Options 1.1 to 1.4 are expected to give rise to these additional benefits, but at different magnitudes, based on the scope of organic operators captured under a mandatory standard. A minor difference is expected where small businesses are included given the small market share typically held by such operators. A larger benefit will be realised where a mandatory standard is applied to the whole sector than just food and beverages, as the requirement for organic products to be certified will lead to a great number of products being organically farmed, leading to potential environmental and health benefits.

As Option 2 is targeted as providing consumers with information on the Australian organic industry and the benefits of certified organic products, it is reasonable to expect some level of environmental and health benefits may result. This stems from a campaign's potential to increase consumer take up of certified organic products. However, these benefits are likely to be marginal in the short term and dissipate over the medium to long term, as an education campaign does not guarantee a consistent growth or take up of organic agriculture to realise these benefits for the industry.

7.2 Distributional analysis

Each of the costs and benefits quantified above is initially incurred by either producers, consumers or government (with some non-quantified costs and benefits incurred by other parties). The tables below explore the distribution of costs and benefits depending on which party incurs them. However, it is important to note that initial incidence does not mean final

economic incidence (the party that eventually bears the cost and has the benefit). There are a few main examples of where initial incidence may be different to economic incidence:

- Costs that are initially incurred by government may eventually be shared by industry. This may occur through formal cost recovery (for regulatory costs) or agreed co-funding (such as for education costs). The likelihood of these arrangements will be subject to ongoing policy work. It is noted that pass through of government costs should not change the magnitude of overall costs, but a formal cost recovery arrangement is likely to marginally increase costs through administration required.
- Costs that are initially incurred by producers may be passed on to consumer through higher prices. Costs passed through to consumers is not a new cost category, merely a redistribution of the same cost and is unlikely to change in quantum. The likelihood that producer costs are passed through likely depends on the market dynamics of how the product is sold, especially if a third party such as a major supermarket is involved.
- The inverse may also be true for the producer surplus benefit which assumes that the producer is able to charge a higher price premium when there is clarity in the market (in the 'plum' market example). Where the producer has less bargaining power than the ultimate retailer, they may not be able to capture the full producer surplus through a price increase. In this example, the consumer is able to capture some of the producer benefit (and potentially influence a change in volume of consumption as well). Relative application of the single mandatory standard in major supermarkets and other retail environments in a risk-based manner may also be subject to further policy work and analysis.

For presentation below, it is noted that the initial incidence of costs and benefits is as follows:

- producers receive quantified benefits B1 (reduction in regulatory burden) and B4A (producer surplus) and are also the beneficiary for B2A and B2B (export benefits), B3 (lower market risk), B5 (lower certification costs) and some of B8 (better data) which are not quantified in the core analysis
- consumers received quantified benefits B4B (consumer surplus) and unquantified B9 (health benefits)
- government receives no quantified benefits but is the part beneficiary of unquantified B8 (better data), as well as the beneficiary for unquantified B6 (reduced negotiation costs)
- the broader community (not just individuals that consume organic products) are the beneficiary of unquantified B7 (environmental benefits)
- producers bear quantified costs C1 (increased regulatory burden) and C2 (transition costs)
- government bears the remainder of the costs C3A (implementing a standard), C3B (supporting transition), C4 (risk-based regulation), C5 (maintaining standard) and C6 (education)
- certifiers bear the unquantified cost of C7 (loss of brand value).

Table 18 and Table 19 display results by initial incidence in the distribution shown above. Across both timeframes, it is anticipated that the allocation of each benefit and cost remains the same.

Table 18 Costs and benefits, core analysis incremental to base case, by party of initial incidence (10 year present value at 7% discount rate) - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Producers					
Total benefits (present value)	50.1	64.8	49.8	64.2	5.0
Total costs (present value)	-21.8	-26.4	-22.5	-27.7	-9.1
Net present value	28.3	38.4	27.2	36.6	-4.2
Consumers					
Total benefits (present value)	17.5	21.1	22.2	24.7	4.7
Total costs (present value)	0.0	0.0	0.0	0.0	0.0
Net present value	17.5	21.1	22.2	24.7	4.7
Government					
Total benefits (present value)	0.0	0.0	0.0	0.0	0.0
Total costs (present value)	-65.7	-71.9	-68.5	-76.0	-3.8
Net present value	-65.7	-71.9	-68.5	-76.0	-3.8

Table 19 Costs and benefits, core analysis incremental to base case, by party of initial incidence (20 year present value at 7% discount rate) - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Producers					
Total benefits (present value)	156.4	204.0	155.6	202.4	0.0
Total costs (present value)	-38.5	-45.3	-40.4	-46.6	-9.3
Net present value	117.9	158.7	115.3	93.7	-9.3
Consumers					
Total benefits (present value)	44.6	54.3	57.3	64.1	4.8
Total costs (present value)	0.0	0.0	0.0	0.0	0.0
Net present value	44.6	54.3	57.3	64.1	4.8
Government					
Total benefits (present value)	0.0	0.0	0.0	0.0	0.0
Total costs (present value)	-92.6	-102.7	-95.9	-108.7	-5.8
Net present value	-92.6	-102.7	-95.9	-108.7	-5.8

It has been assumed that a reduction in the regulatory burden for exporting organic operators will benefit producers, as such businesses will directly realise the cost savings of reducing the number of certifications they need to maintain, in conjunction with all the associated costs (i.e. recording keeping, audits, etc.). While this cost saving may be passed on to consumers (resulting in a reduction in the sale price of an organic good), it is unclear whether producers will respond to a regulatory change in such a manner. The price premium charged by producers on organic goods is understood to arise from the inputs and processes needing to be adhered to meet the applicable standards. Consultation with industry has indicated that the price premium associated with organic products is charged to address the barriers faced in the industry, specifically resulting from ambiguity of the term 'organic'. Should regulation sufficiently address this current ambiguity, there may be grounds to pass on such cost savings to consumers in the future.

Alternatively, a majority of consumer participants surveyed through the consumer survey provided that they would be willing to pay up to 25 per cent for an organic product. Given the value consumers attribute to an organic product which is truthful in its representation, producers may be further inclined to retain the cost saving experienced under a mandatory standard.

For consumers, the benefit of a mandatory standard is expected to result in increased consumer utility due to improved certainty and confidence of organic products available in the market. This benefit will directly flow on to producers, allowing them the ability to access an organic price premium. Due to this interdependence, benefit 4 has been relevantly split between consumers and producers. Given this consideration, it is expected that these benefits will remain with consumers and producers as reflected within the tables above under a mandatory standard.

Upon a mandatory standard being implemented, it is anticipated government will incur reduced costs in undertaking equivalency negotiations. While the extent of this benefit is unclear (which is why it remains unquantified), the recent developments between New Zealand and China demonstrate an opportunity for Australia to achieve similar developments with more efficient use of resources. As it remains uncertain whether this benefit would directly impact any additional beneficiaries at this stage, these reduced costs are expected to be realised in full by government.

In terms of costs, it is anticipated that there will be increased costs for domestic operators as they look to comply and transition towards adhering to the new mandatory standard. These costs may be passed on to consumers, however, may be offset by the competitiveness of the market and other operators (particularly those who are already certified). This will also directly benefit certifiers due to an increase in certification demand, however, has not been further captured for certifiers in an effort to ensure the expected benefit is not double counted.

Given the nature of introducing a mandatory standard via Commonwealth legislation, it is expected that the associated implementation, transition, risk-based regulation and maintenance costs will remain with government. The extent to which these may be passed on depend on the cost-recovery measures the Australian Government look to adopt, which may impact on certifiers, having a possible on-flow effect to operators and consumers.

7.3 Sensitivities

A sensitivity analysis was conducted to understand the impacts of varying key assumptions on the overall costs of each options. The sensitivity analysis has considered the following assumptions:

- Discount rates
- Inclusion of export benefits as break even analysis
- Inclusion of certification savings
- Testing of uncertainty around costs to government
- Testing of uncertainty around future growth
- Testing of uncertainty around willingness to pay in an efficient market

Each of the assumptions has been varied from its central assumption to provide a low (optimistic) and high (pessimistic) scenario. Further details on each of these sensitivities has been provided below.

7.3.1 Discount rate sensitivities

The core analysis is discounted at 7 per cent in line with OBPR guidelines, with sensitivities at 4 per cent generally representing a more optimistic net impact scenario and 10 per cent representing a more pessimistic net impact scenario.

Table 20, Table 21, Table 22, Table 23 and Table 24 shows each of the option analysis tested across timeframe and discount rates. The ten-year and twenty-year scenarios at a discount rate of 7 per cent represent the central scenarios. As referenced above, sensitivities at a discount rate of 4 per cent are more optimistic and at 10 per cent are more pessimistic.

Table 20 Option 1.1 discount rate and timeframe sensitivities, incremental impacts above base case

	10 year, 7%	20 year, 7%	10 year, 4%	20 year, 4%	10 year, 10%	20 year, 10%
Total benefits (present value, \$ m)	67.5	201.0	82.4	284.6	55.7	145.3
Total costs (present value, \$ m)	-87.5	-131.1	-99.1	-164.43	-77.9	-107.6
Net present value (\$ m)	-20.0	69.8	-16.7	120.17	-22.3	37.7
Benefit cost ratio	0.77	1.53	0.83	1.73	0.71	1.35

Table 21 Option 1.2 discount rate and timeframe sensitivities, incremental impacts above base case

	10 year, 7%	20 year, 7%	10 year, 4%	20 year, 4%	10 year, 10%	20 year, 10%
Total benefits (present value, \$ m)	85.9	258.3	104.9	366.2	70.8	186.6
Total costs (present value, \$ m)	-98.3	-148.0	-111.6	-185.9	-87.4	-121.1
Net present value (\$ m)	-12.4	110.4	-6.7	180.3	-16.6	65.5
Benefit cost ratio	0.87	1.75	0.94	1.97	0.81	1.54

Table 22 Option 1.3 discount rate and timeframe sensitivities, incremental impacts above base case

	10 year, 7%	20 year, 7%	10 year, 4%	20 year, 4%	10 year, 10%	20 year, 10%
Total benefits (present value, \$ m)	72.0	212.9	87.9	301.3	59.3	154.1
Total costs (present value, \$ m)	-91.04	-136.3	-103.1	-170.9	-81.1	-111.9
Net present value (\$ m)	-19.1	76.6	-15.3	130.5	-21.8	42.2
Benefit cost ratio	0.79	1.56	0.85	1.76	0.73	1.38

Table 23 Option 1.4 discount rate and timeframe sensitivities, incremental impacts above base case

	10 year, 7%	20 year, 7%	10 year, 4%	20 year, 4%	10 year, 10%	20 year, 10%
Total benefits (present value, \$ m)	88.9	266.5	108.6	377.8	73.3	192.6
Total costs (present value, \$ m)	-103.7	-155.3	-117.7	-195.0	-92.1	-127.2
Net present value (\$ m)	-14.8	111.2	-9.2	182.7	-18.8	65.4
Benefit cost ratio	0.86	1.72	0.92	1.94	0.80	1.51

Table 24 Option 2 discount rate and timeframe sensitivities, incremental impacts above base case

	10 year, 7%	20 year, 7%	10 year, 4%	20 year, 4%	10 year, 10%	20 year, 10%
Total benefits (present value, \$ m)	9.6	9.9	11.1	11.4	8.4	8.6
Total costs (present value, \$ m)	-13.0	-15.1	-14.6	-17.7	-11.6	-13.1
Net present value (\$ m)	-3.3	-5.2	-3.5	-6.3	-3.2	-4.4
Benefit cost ratio	0.74	0.66	0.76	0.64	0.73	0.66

7.3.2 Inclusion of export benefits

As explored above, export benefits were not included in the core analysis as they are most uncertain and rely on action both by domestic producers to begin or increase export and local and foreign government to arrange equivalency.

However, it is acknowledged that export market access is a core part of the problem statement and a reason for investigating domestic regulation, so it is important to examine potential quantum of export benefits. This has been done as a 'break even' analysis for the ten-year scenario – that is, what is the quantum of export benefits required for the benefits to outweigh the costs in the standard time frame for analysis. This is done just for the regulatory options, as without regulation there is no reason to believe exports would change in the non-regulatory option. It is assumed that export benefits do not begin until year 7 (i.e. assume two years of work to gain equivalence after full implementation).

For benefit 2A (new exporters) this was estimated using:

- the assumption that 46 per cent of current export hindrances could be addressed by equivalence (based on the proportion of respondents to the Have Your Say survey) and that those regulatory costs would be reduced by 20 per cent consistent with the benefit above
- the assumption that 13 per cent of current producers are significantly considering exporting in the near future (based on respondents to the Have Your Say survey).

This results in an estimate on best information that 1.2 per cent of current producers would begin exports. That core estimate would be enough to break even only in Option 1.2. The comparative proportions for all options are shown in Table 25.

For benefit 2B (current exporters increasing volumes or accessing new markets) this break even was calculated purely as proportion increase of exports in the base case.

Table 25 Export benefits break even analysis (level of exports required to outweigh costs in 10 year present value)

	Option 1			
	Option 1.1	Option 1.2	Option 1.3	Option 1.4
Benefit 2A only – new exporters	2.0% current producers export	1.1% current producers export	1.9% current producers export	1.3% current producers export
Benefit 2B only – existing exporters increasing exports	1.3% increase of exports above base case	0.7% increase of exports above base case	1.2% increase of exports above base case	0.8% increase of exports above base case
Both export benefits (half of required benefit coming from each of new exporters and existing exporters)	1.0% current producers export and 0.7% increase of exports above base case	0.5% current producers export and 0.4% increase of exports above base case	1.0% current producers export and 0.6% increase of exports above base case	0.6% current producers export and 0.4% increase of exports above base case

As such, across regulatory options, it would take only minimal export benefits (approximately a 1 per cent increase in current exports and minimal new entrants) to make all the regulatory options have a positive benefit cost ratio in the ten-year analysis.

7.2.3 Inclusion of certification savings

The potential for operators to realise certification cost savings under a mandatory standard is dependent on certifiers and how they respond to such a new regulatory framework. As such cost savings are subject to the behavioural response of certifiers, this has been tested as a sensitivity. As certifiers will want to remain competitive within the market against other certifying bodies, a pessimistic scenario is not expected to arise and therefore, has not been factored for. Rather, the central scenario of no cost savings is anticipated to be the pessimistic (though most likely) scenario.

Table 26 and Table 27 reflect that a minimal benefit will arise where cost savings relating to certification are passed on to operators. This reflects that the net impact of each sub-option is not incredibly sensitive to the certification cost savings which may be realised by operators under a mandatory standard.

Notwithstanding the quantified impact reflected within the tables below, it is recognised that cost savings associated with certification may be more advantageous for smaller businesses compared to those who operate on a larger scale.

Table 26 Certification cost sensitivity, incremental impacts above base case (10 year PV at 7% discount rate) - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Central - No cost savings to certification included					
Total benefits (present value, \$ m)	67.5	85.9	72.0	88.9	9.6
Total costs (present value, \$ m)	-87.5	-98.3	-91.0	-103.6	-13.0
Net present value (\$ m)	-20.0	-12.4	-19.1	-14.8	-3.3
Benefit cost ratio	0.77	0.87	0.79	0.86	0.74
Optimistic - Cost savings to certification included					
Total benefits (present value, \$ m)	68.3	86.8	72.8	89.9	9.6
Total costs (present value, \$ m)	-87.5	-98.3	-91.0	-103.6	-13.0
Net present value (\$ m)	-19.2	-11.5	-18.2	-13.7	-3.3
Benefit cost ratio	0.78	0.88	0.80	0.87	0.74

Table 27 Certification cost sensitivity, incremental impacts above base case (20 year PV at 7% discount rate) - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Central - No cost savings to certification included					
Total benefits (present value, \$ m)	201.0	258.3	212.9	266.5	9.9
Total costs (present value, \$ m)	-131.1	-148.0	-136.3	-155.3	-15.1
Net present value (\$ m)	69.8	110.3	76.6	111.2	-5.2
Benefit cost ratio	1.53	1.75	1.56	1.72	0.66
Optimistic - Cost savings to certification included					
Total benefits (present value, \$ m)	203.0	260.7	215.0	269.0	9.9
Total costs (present value, \$ m)	-131.1	-148.0	-136.3	-155.3	-15.1
Net present value (\$ m)	71.8	112.7	78.7	113.7	-5.2
Benefit cost ratio	1.55	1.76	1.58	1.73	0.66

7.2.4 Testing uncertainty of cost to government

As the policy considerations for each option continue to be unpacked, the extent to which government costs will be incurred under each of the options will continue to be refined. The importance of costs to government in the analysis and the influence on total results can be seen in the change in government costs between the previous desktop analysis. Table 28 shows that due to the policy work DAWE has undertaken, we now have a more detailed understanding of government effort required, but this has led to a noticeable increase in estimates of government costs.

Table 28 Comparison of government costs in this analysis and previous desktop analysis (\$ million, undiscounted terms)

Cost	Desktop CBA	Updated costing for Option 4*
3A - Implementing a mandatory standard:	\$6.6 m (a half in each of two years)	\$20.2 m (a half in each of two years)
3B – Implementing a mandatory standard: transitioning to a mandatory standard	-	\$24.6 m (a third in each of three years)
4 – Risk-based regulation of a mandatory standard	\$4.4 m per year	\$7.3 m per year
5 – Maintaining standard	\$0.6 m per year	\$1.7 m per year
6 – Implementing an education campaign	\$6.0 m (half in each of two years)	\$1.6 m first year, \$0.5m ongoing
Total initial government costs (10 year and undiscounted estimation)	~\$52 m	~\$100 m

*Option 4 has been selected as this option is most comparable

While considerable policy work has been done to date, it is acknowledged that there is still ongoing development to fully understand how government would implement, and as such, what government costs would be. As such, we have tested government costs as a sensitivity. This sensitivity considers a 20 per cent increase and decrease in the initial government costs. Table 29 and Table 30 show that while the net impact of Option 1 will somewhat reduce, it will remain positive across each of the sub-options across a longer timeframe, except for Option 2. Therefore, should government costs associated with implementing, transitioning, regulating and maintaining a mandatory standard increase as a result of further policy considerations, it is anticipated that Option 1.2 will still be the preferred option with a positive impact over the long-term.

Table 29 Sensitivity around government costs, core analysis, incremental impact above base case (10 year PV at 7% discount rate) - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Central - No change to government costs					
Total benefits (present value, \$ m)	67.5	85.9	72.0	88.9	9.6
Total costs (present value, \$ m)	-87.5	-98.3	-91.0	-103.6	-13.0
Net present value (\$ m)	-20.0	-12.4	-19.1	-14.8	-3.3
Benefit cost ratio	0.77	0.87	0.79	0.86	0.74
Pessimistic - 20% higher government costs					
Total benefits (present value, \$ m)	67.5	85.9	72.0	88.9	9.6
Total costs (present value, \$ m)	-100.6	-112.7	-104.7	-118.8	-13.7
Net present value (\$ m)	-33.2	-26.8	-32.8	-30.0	-4.1
Benefit cost ratio	0.67	0.76	0.69	0.75	0.70
Optimistic - 20% lower government costs					
Total benefits (present value, \$ m)	67.5	85.9	72.0	88.9	9.6
Total costs (present value, \$ m)	-74.4	-83.9	-77.3	-88.5	-12.2
Net present value (\$ m)	-6.9	2.0	-5.4	0.4	-2.6
Benefit cost ratio	0.91	1.02	0.93	1.00	0.79

Table 30 Sensitivity around government costs, core analysis, incremental impact above base case (20 year PV at 7% discount rate) - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Central - No change to initial government costs					
Total benefits (present value, \$ m)	201.0	258.3	212.9	266.5	9.9
Total costs (present value, \$ m)	-131.1	-148.0	-136.3	-155.3	-15.1
Net present value (\$ m)	69.8	110.3	76.6	111.2	-5.2
Benefit cost ratio	1.53	1.75	1.56	1.72	0.66
Pessimistic - 20% higher initial government costs					
Total benefits (present value, \$ m)	201.0	258.3	212.9	266.5	9.9
Total costs (present value, \$ m)	-149.6	-168.5	-155.5	-177.1	-16.2
Net present value (\$ m)	51.3	89.8	57.4	89.5	-6.3
Benefit cost ratio	1.34	1.53	1.37	1.51	0.61
Optimistic - 20% lower initial government costs					
Total benefits (present value, \$ m)	201.0	258.3	212.9	266.5	9.9
Total costs (present value, \$ m)	-112.6	-127.4	-117.1	-133.6	-13.9
Net present value (\$ m)	88.3	130.9	95.8	133.0	-4.0
Benefit cost ratio	1.78	2.03	1.82	2.00	0.71

7.3.5 Testing of uncertainty around future growth

It is noted that growth rates for the base case and option cases was a cause for comment around the previous desktop analysis. As such, this has been tested as a sensitivity. For the central case (which is the core analysis) both base case and options have moderate growth rates (below the significant growth of previous years and projected in IBISWorld reports) but the option forecast has higher growth than the base case once there is more certainty in the market. The sensitivities test a pessimistic scenario where no higher growth is unlocked in the option case (although there are still benefits from

efficiencies in the market without higher growth) and the optimistic scenario shows the option case at the full high growth rate as projected in IBISWorld reports.

The results in Table 31 and Table 32 show that growth rates do significant impact results, supporting the approach to be moderate in the core analysis (compared to growth forecasts that are in other research studies).

Table 31 Sensitivity around growth rates, core analysis, incremental impact above base case (10 year PV at 7% discount rate) - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Central					
Total benefits (present value, \$ m)	67.5	85.9	72.0	88.9	9.6
Total costs (present value, \$ m)	-87.5	-98.3	-91.0	-103.6	-13.0
Net present value (\$ m)	-20.0	-12.4	-19.1	-14.8	-3.3
Benefit cost ratio	0.77	0.87	0.79	0.86	0.74
Pessimistic – Same growth in base case and options					
Total benefits (present value, \$ m)	39.9	47.9	43.1	49.6	4.7
Total costs (present value, \$ m)	-84.4	-94.9	-87.8	-100.2	-12.0
Net present value (\$ m)	-44.5	-47.0	-44.8	-50.6	-7.2
Benefit cost ratio	0.47	0.50	0.49	0.49	0.40
Optimistic – High growth in options					
Total benefits (present value, \$ m)	107.5	139.5	114.9	146.2	27.0
Total costs (present value, \$ m)	-87.5	-98.3	-91.0	-103.6	-13.0
Net present value (\$ m)	20.0	41.2	23.9	42.6	14.1
Benefit cost ratio	1.23	1.42	1.26	1.41	2.09

Table 32 Sensitivity around growth rates, core analysis, incremental impact above base case (20 year PV at 7% discount rate) - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Central					
Total benefits (present value, \$ m)	201.0	258.3	212.9	266.5	9.9
Total costs (present value, \$ m)	-131.1	-148.0	-136.3	-155.3	-15.1
Net present value (\$ m)	69.8	110.3	76.6	111.2	-5.2
Benefit cost ratio	1.53	1.75	1.56	1.72	0.66
Pessimistic – Same growth in base case and options					
Total benefits (present value, \$ m)	93.6	112.2	101.0	116.1	4.8
Total costs (present value, \$ m)	-122.1	-138.3	-126.8	-145.6	-14.1
Net present value (\$ m)	-28.6	-26.1	-25.8	-29.5	-9.3
Benefit cost ratio	0.77	0.81	0.80	0.80	0.34
Optimistic – High growth in options					
Total benefits (present value, \$ m)	315.9	411.4	336.4	430.3	28.1
Total costs (present value, \$ m)	-131.1	-148.0	-136.3	-155.3	-15.1
Net present value (\$ m)	184.8	263.4	200.1	275.0	13.1
Benefit cost ratio	2.41	2.78	2.47	2.77	1.87

7.3.6 Testing of uncertainty around willingness to pay in an efficient market

A key input to benefits is the willingness to pay from consumers for an organic product they can be confident in. This influences the key benefits of producer and consumer surplus but also other costs and benefits through the impact it has on future volumes (set in a 'lemon' and 'plum' market). The core analysis uses a willingness to pay, a 12 per cent increase in

price for a confirmed organic product which is an average across the PwC consumer survey. The sensitivities tested below use a low willingness to pay of 5 per cent and a high of 25 per cent.

Table 33 Sensitivity around willingness to pay, core analysis, incremental impact above base case (10 year PV at 7% discount rate) - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Central					
Total benefits (present value, \$ m)	67.5	85.9	72.0	88.9	9.6
Total costs (present value, \$ m)	-87.5	-98.3	-91.0	-103.6	-13.0
Net present value (\$ m)	-20.0	-12.4	-19.1	-14.8	-3.3
Benefit cost ratio	0.77	0.87	0.79	0.86	0.74
Pessimistic – Willing to pay 5% more for a confirmed organic product					
Total benefits (present value, \$ m)	28.8	39.0	29.7	39.6	4.1
Total costs (present value, \$ m)	-87.0	-97.7	-90.2	-103.0	-12.4
Net present value (\$ m)	-58.3	-58.7	-60.5	-63.4	-8.3
Benefit cost ratio	0.33	0.40	0.33	0.38	0.33
Optimistic - Willing to pay 25% more for a confirmed organic product					
Total benefits (present value, \$ m)	162.1	196.6	179.2	207.8	23.9
Total costs (present value, \$ m)	-88.4	-99.4	-92.6	-104.8	-13.8
Net present value (\$ m)	73.8	97.2	86.7	103.0	10.1
Benefit cost ratio	1.84	1.98	1.94	1.98	1.73

Table 34 Sensitivity around willingness to pay, core analysis, incremental impact above base case (20 year PV at 7% discount rate) - \$ millions

	Option 1				Option 2
	Option 1.1	Option 1.2	Option 1.3	Option 1.4	
Central					
Total benefits (present value, \$ m)	201.0	258.3	212.9	266.5	9.9
Total costs (present value, \$ m)	-131.1	-148.0	-136.3	-155.3	-15.1
Net present value (\$ m)	69.8	110.3	76.6	111.2	-5.2
Benefit cost ratio	1.53	1.75	1.56	1.72	0.66
Pessimistic – Willing to pay 5% more for a confirmed organic product					
Total benefits (present value, \$ m)	88.3	120.6	90.9	122.4	4.2
Total costs (present value, \$ m)	-130.0	-146.4	-134.5	-153.8	-14.6
Net present value (\$ m)	-41.7	-25.8	-43.6	-31.3	-10.4
Benefit cost ratio	0.68	0.82	0.68	0.80	0.29
Optimistic - Willing to pay 25% more for a confirmed organic product					
Total benefits (present value, \$ m)	465.6	570.2	508.9	597.7	24.6
Total costs (present value, \$ m)	-133.3	-150.8	-139.6	-158.1	-16.0
Net present value (\$ m)	332.3	419.5	369.3	439.6	8.6
Benefit cost ratio	3.49	3.78	3.65	3.78	1.54

Abbreviations

Acronym	Meaning
ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
ANZFA	Australia New Zealand Food Authority
AQIS	Australian Quarantine Inspection Service
BCR	Benefit-Cost Ratio
DAWE	Department of Agriculture, Water and Environment
FSANZ	Food Standards Australia New Zealand
NPV	Net Present Value
PV	Present Value
RIS	Regulatory Impact Statement

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