



# Stakeholder Consultation

## Market Development Strategy for FOGO- Derived Products

Waste Authority

16 June 2021

→ **The Power of Commitment**



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# 1. Overview

To support development of the Market Development Strategy for FOGO-Derived Products (the Strategy), the identified market sectors were consulted through a process of online survey questionnaires and follow-up interviews via phone, video conference, and in-person. Five questionnaires were developed and tailored towards specific considerations of each of the following groups:

- Government (National/State) and Peak Bodies (organics recycling sector)
- Regional Local Government, Local Government (councils)
- Organics recyclers (Processors)
- Agriculture
- Property/road/rail infrastructure development, mine rehabilitation, and remediation.

Sections 2 to 6 present feedback from industry, Government and potential end-markets gathered through the online questionnaires.

Section 7 presents key learnings from interviews undertaken with government, industry and potential end-markets.

Section 8 presents survey questions which were tailored towards the key stakeholder groups.

# 2. Survey participants

A total of 158 stakeholders were invited to complete the questionnaire, of which 54 (~35%) responded (Figure 1). Respondents were primarily from WA (85%), with contributions also received from Queensland, New South Wales, Victoria and the Australian Capital Territory. Target stakeholder groups were represented as shown in Figure 2.

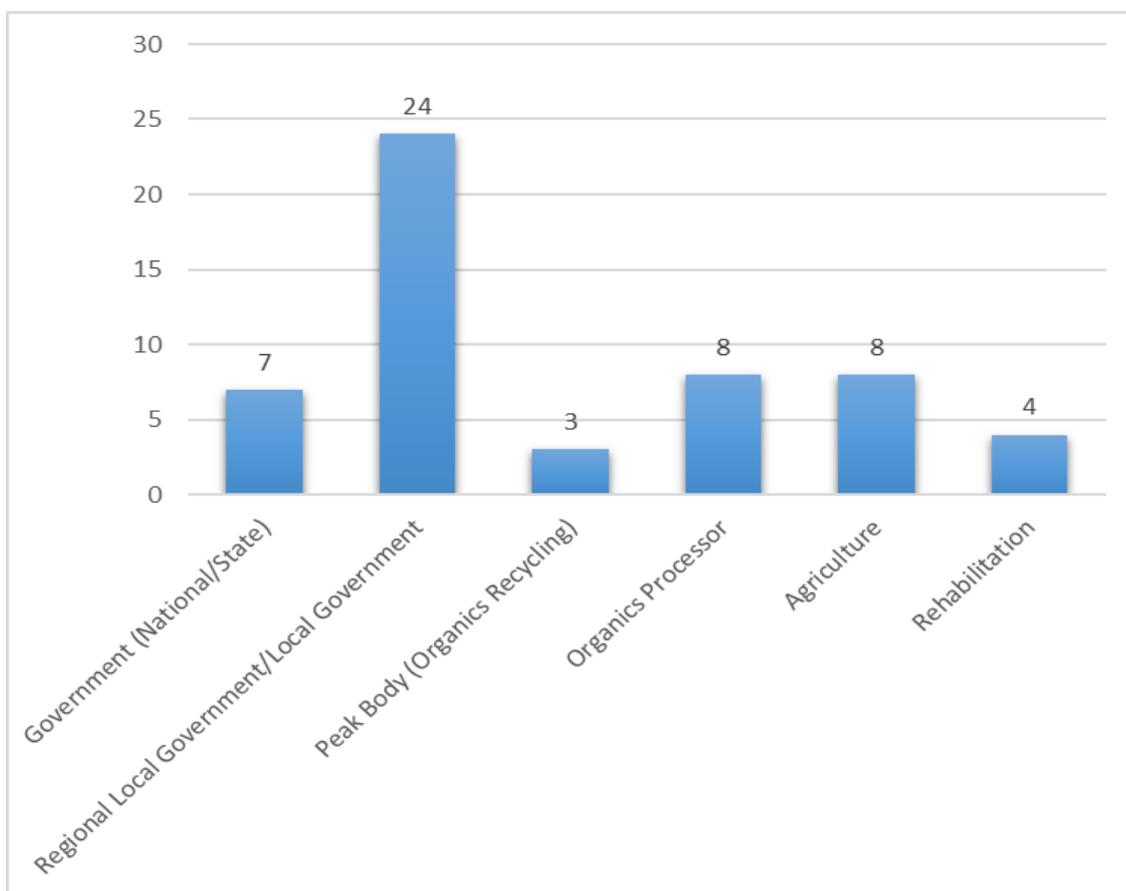
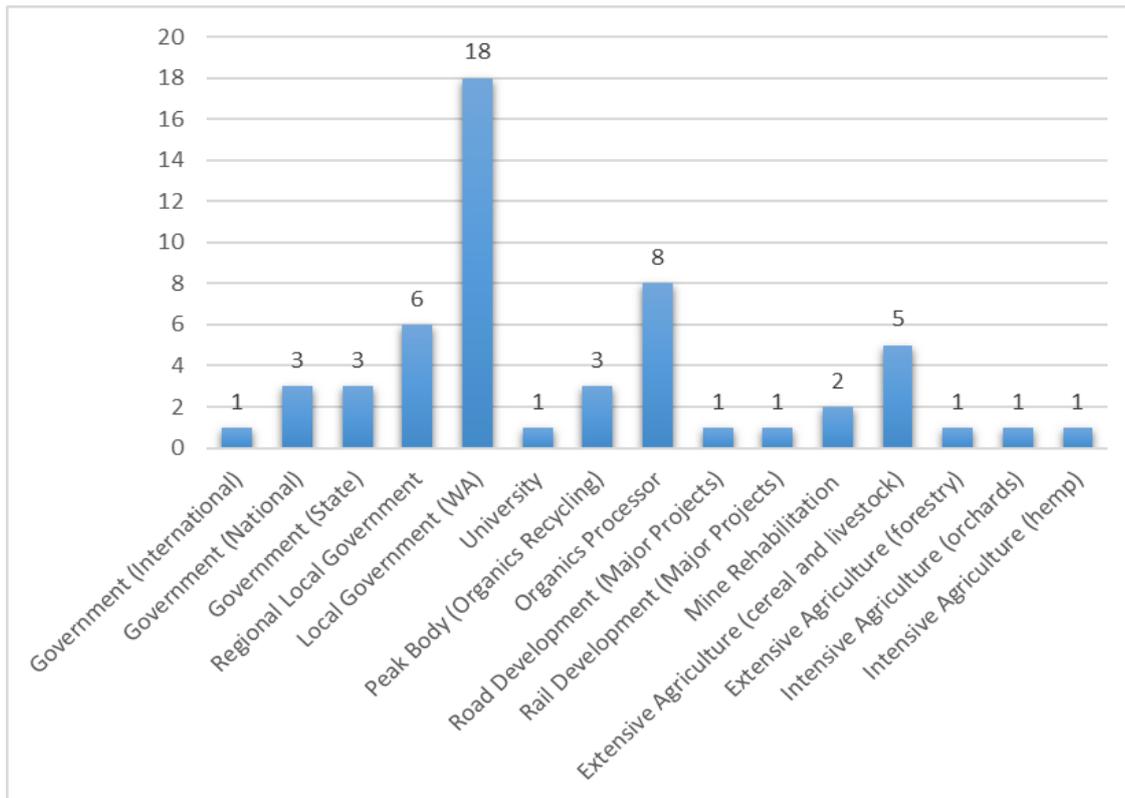


Figure 1 Survey participation - key stakeholder groups



**Figure 2** Survey participation - sub-markets

As shown in Figure 2, end markets that demonstrated an interest in FOGO-derived products, and engaging in the online survey included:

- Local Government (WA) - Parks and Gardens
- Road Development (Major Projects)
- Rail Development (Major Projects)
- Mine Rehabilitation
- Extensive Agriculture (cereal and livestock)
- Extensive Agriculture (forestry)
- Intensive Agriculture (orchards)
- Intensive Agriculture (hemp)

No survey responses were received from the following sub-markets:

- Turf production
- Vineyard
- Orchards (citrus and avocado)
- Market gardens (flowers, seedlings, vegetables, fruit)
- Remediation consultants.

## 3. Industry and Government

### 3.1 Peak bodies (organics recycling)

Peak bodies of the organics recycling industry who engaged in the online survey included:

- Australian Organics Recycling Association (AORA)
- Sustainability Waste Alliance (SWA)
- The Waste and Recycling Industry Association of WA (WRIWA).

#### 3.1.1 Standards

Standards, certification, and guidance considered most important (ranking of 1 or 2) by peak bodies, for encouraging uptake of FOGO derived products were:

- **AS 4454** Composts, soil conditioners and mulches
- **AS 4419** Soils for landscaping and garden use
- **DWER Guideline: Better Practice Composting** (currently draft status)

Others considered relatively important were:

- **AS 6000** Australian Standard for Organic and biodynamic products
- **DPIRD general guidance** for use of composts in Agriculture and Food production

#### 3.1.2 Barriers

AORA, SWA and WRIWA considered the following to be key barriers (ranking of 1 or 2) for uptake of FOGO derived products:

- Local governments unable to control feedstock contamination, preventing composters from producing a consistently high-quality product
- Unclear market strategy/policy targets on preferred uptake from State Government
- Concern over damage to plants or crops from chemical contaminants.

#### 3.1.3 Strategies

AORA, SWA and WRIWA supported the wide range of strategies proposed in the survey, with every option being selected at least once. The strategies which were selected by all three respondents included:

- Funding for education campaigns to share demonstrated benefits
- Funding made available to processors to remove contaminants from FOGO feedstock and/or increase testing of products
- Support local government investment in education and intervention to reduce contamination in their collected FOGO feedstock
- Develop policy/legislation for sustainable procurement by all levels of government of recycled materials (incorporating FOGO products) with measurable targets
- Develop policies that support achieving the WA Waste Strategy 2030 targets for processing of FOGO into saleable products
- Raising the landfill levy such that it provides a disincentive for landfilling of recyclable organic material (e.g. FOGO).

#### 3.1.4 Lessons learnt

Lessons and general feedback shared by each peak body is summarized in Table

*Table 1 Lessons learnt – peak bodies*

Peak body (organics recycling)	Key lessons learnt
AORA	<ul style="list-style-type: none"> <li>- Important to think about the big picture (education should focus on value of returning composted organics to soil, not just FOGO)</li> <li>- Want to avoid impacting establish markets</li> <li>- The role of Government is to set targets for recycling of organic waste and to demonstrate why this is important; their role is not to market individual finished products</li> </ul>
WRIWA	<ul style="list-style-type: none"> <li>- Current experience with rollout of FOGO collection services in WA shows that the expectation of Local Councils does not match commercial realities of processors</li> <li>- WRIWA considers that without a standard form of contracting between Local Governments and providers, FOGO is unlikely to be successful</li> <li>- Following extensive industry consultation WRIWA is focused on: <ul style="list-style-type: none"> <li>*Provision in contracts where contamination exceeds an agreed level, Local Governments are to meet the additional costs</li> <li>*A guaranteed \$ spend per household per annum on recycling education in every local government area</li> <li>*Councils providing Compostable Plastic Caddy Liners (at cost or better).</li> </ul> </li> <li>- The largest contamination threat is residents having to source compostable liners from supermarkets - compostable liners are not well labelled and easy to distinguish from non-compostable liners</li> <li>- Funding should be provided to support marketing of FOGO-derived products</li> <li>- Contracts between Local Governments and processors should: <ul style="list-style-type: none"> <li>*Including a 'buy back' clause</li> <li>*Be of a suitable length of time for processors to recover capital costs associated with introducing FOGO processing (which is between 7 and 10 years)</li> </ul> </li> <li>- Consider a mechanism whereby processors do not share the financial risk of low volumes</li> <li>- Adequate start up time required</li> <li>- Local Councils should be aware when going to tender that FOGO Transfer Stations and FOGO Processing Facilities require very specific conditions</li> <li>- Industry needs a clear process with DWER involvement to resolve issues that arise</li> </ul>
SWA	<ul style="list-style-type: none"> <li>- SWA have a Project Business Case for FOGO in south-west of WA</li> <li>- SWA would be interested in collaborating with DWER to develop a market for FOGO-derived products.</li> </ul>

## 3.2 National | State Government

National and State Government representatives who engaged in the online survey and provided perspectives from within and beyond WA included:

- Ministry for the Environment New Zealand – Government (International)
- Department of Agriculture, Water and the Environment – Government (National)
- DWER – Government (State - WA)
- DPLH – Government (State - WA)
- Sustainability Victoria – Government (State - Vic)
- NSW EPA – Government (State - NSW)
- School of Agriculture and Food Sciences, University of Queensland (State - Qld).

### 3.2.1 Standards

Standards, certification, and guidance considered most important (ranking of 1 or 2) by state and national government respondents, for encouraging uptake of FOGO derived products were:

- **AS 4454** Composts, soil conditioners and mulches
- **AS 3743** Potting mixes
- **AS 4419** Soils for landscaping and garden use
- **AS 6000** Australian Standard for Organic and biodynamic products
- Fresh Care Food Safety and Quality Program
- **DWER** Guideline: Better Practice Composting (currently draft status)
- **DPIRD** general guidance for use of composts in Agriculture and Food production

### 3.2.2 Barriers

State and national government respondents considered the following to be key barriers (ranking of 1 or 2) for uptake of FOGO-derived products:

- Inconsistent product quality
- The cost of incorporating or applying FOGO-derived products
- Lack of knowledge about benefits of using FOGO-derived products
- Local governments unable to control feedstock contamination, preventing composters from producing a consistently high-quality product
- Unclear market strategy/policy targets on preferred uptake from State Government.

### 3.2.3 Strategies

State and national government supported the wide range of strategies proposed in the survey. Strategies which were selected by at least three respondents included:

- Ensure all FOGO-derived products are quality assured to AS4454
- Tailored specifications/standards/certifications for FOGO products designed to meet the needs of specific end markets
- Support local government investment in education and intervention to reduce contamination in their collected FOGO feedstock
- Funding made available to processors to remove contaminants from FOGO feedstock and/or increase testing of products
- Develop policy/legislation for sustainable procurement by all levels of government of recycled materials (incorporating FOGO products) with measurable targets
- Develop guidance on how to successfully apply FOGO-derived products within target markets

Strategies not selected by any respondents (and therefore possibly not supported) included:

- Introduce a new certification standard that applies to the whole supply chain (from feedstock to end product)
- Introduce short-term subsidies/discounts to purchasers to incentivise uptake of FOGO-derived products
- Regulate (restrict) use of synthetic fertilisers / persistent herbicides in sensitive catchments.

### 3.2.4 Lessons learnt

State and national government respondents shared detailed learnings through the interview process (refer to Section 7). Key insights shared by NSW EPA through the online survey are provided below, shared in quote form:

*“The benefit of FOGO is proven, it is knowledge sharing that now needs to happen.”*

*“Product quality is critical. Higher standards and tailored to market products are needed.”*

*“The value proposition needs to be raised so customers feel it’s worth paying the price, carbon sequestration incentives will help”.*

## 3.3 Organics processors

### 3.3.1 WA processors

WA organics processors are listed in Table 2. Several are licenced to receive FOGO, with others understood to be planning to upgrade their approvals to allow acceptance and processing of FOGO by 2025.

Table 2 Organics processors

Processor	Approved for FOGO	Location	Current End markets for FOGO products
Bunbury Harvey Regional Council (BHRC)	Yes (since 2012)	Banksia Road, Dardanup (moving to Stanley Road, Australind)	BHRC produce FOGO-derived composts that are tested for compliance with AS4454, and in the 12 months to end of March 2021, (per DWER annual compliance report) processed 17,500 tonnes total GO and FOGO. Main client base is understood to include: <ul style="list-style-type: none"> <li>– Agriculture (intensive and extensive, including avocado growers) (90%)</li> <li>– Urban amenity users</li> <li>– Environmental remediation requirements (internal)</li> <li>– Rehabilitation</li> <li>– Local Government</li> </ul> BHRC are also understood to produce “organic certified” compost to ACO Limited requirements (formerly known as Australian Certified Organic). Product currently sold for \$42/tonne ex-works.
	Yes	Lot 45, Stanley Road, Australind (future proposed site)	Products currently produced from Banksia Road site – process is uncovered mobile aerated static pile composting. Works approval issued for 35,000 tonne per annum in-vessel (tunnel) composting facility – in procurement.
C-Wise	No	230 Gull Road, Nambeelup	Largely urban amenity. Not currently approved for, or processing, FOGO waste.
GoOrganics	Yes (works approval only at this stage – 8 kpta)	276 Aurisch Rd, Boonanarring WA 6503	GoOrganics are new to this market segment and recently completed a FOGO processing trial. Not currently selling FOGO-derived product other than exploring use in current product range (from trial). Target markets may include a percentage in retail (bagged products) and balance to agricultural markets. Open to processing further tonnage of FOGO waste but not currently contracted by any local government customers for FOGO waste processing. Site is not yet approved for FOGO waste processing (beyond trial). Works Approval granted for infrastructure upgrades to allow

			processing of up to 8ktpa FOGO waste. Hardstand extension not yet constructed.
Nutrarich	No	1118 Great Northern Highway, Baskerville	Not currently processing FOGO but Nutrarich have experience processing and selling products incorporating Alternative Waste Technology (AWT) composts, including into extensive agriculture (broad-acre) markets.
	No	Lot 3 on Plan 69746, 435 Chittleborough Road, Brookton WA	Not currently processing FOGO but Nutrarich have experience processing and selling products incorporating Alternative Waste Technology (AWT) composts, including into extensive agriculture (broad-acre) markets.
Purearth	Yes (since 2019)	324 Horton Road, Lot 13 on Diagram 87525,	Currently contracted to process up to 20,000 tpa FOGO waste from SMRC. Understood to be selling blended products incorporating FOGO waste inputs to urban amenity for landscaping (80%) and broad-acre (20%).
Richgro –	No -	203 Acourt Road, Jandakot, Culford composting facility, North Bannister	Not approved for, or processing, FOGO however Richgro are understood to be selling digestate from anaerobic digestion of commercial FO to farms, and are developing a large capacity open windrow composting facility at North Bannister (Culford composting facility).
Eastern Metropolitan Regional Council (EMRC)	Yes	1094 Toodyay Road, Red Hill	Although EMRC have an established GO composting facility at their Red Hill site, they are also currently processing FOGO in a temporary facility at the site, comprising uncovered piles with mobile aerated floor system. Odorous air is treated via a modular biofilter. FOGO is collected from two of EMRC's six member councils, being Bassendean (commenced Aug 2020) and Bayswater (commenced March 2021). Total quantity of FOGO waste currently collected and processed is expected to be circa 10,000 tpa. A new permanent enclosed, in-vessel FOGO processing facility is currently in procurement with 60,000 tpa initial capacity, expandable to 100,000 tpa. Market development is also understood to be in progress. <b>No established markets/customers for FOGO-derived products to-date.</b>
Southern Metropolitan Regional Council (SMRC)	No	350 Banister Road, Canning Vale	FOGO is processed (sorted, shredded and screened) but not composted at Canning Vale. Sorted and screened FOGO is trucked to Purearth for composting (current arrangement).
SUEZ	Yes	6363 Albany Highway, North Bannister	<b>Not currently processing FOGO waste</b> – only GO composting with commercial organics in open windrow operation. FOGO waste processing is approved and planned and FOGO transfer station with 100,000 tpa capacity is in development at Bibra Lake (Works Approval granted).

### 3.3.2 Products currently produced and quantities

Of the processors who completed the online survey, the key products currently being produced at their organics recycling facilities include:

- Soil conditioner
- Compost
- Soil blends | potting mix
- Mulch

None of these processors are currently producing a pelletised organic product or liquid/solid digestate.

Figure 3 shows estimated quantities produced by each facility per annum, and Figure 4 the current proportion of FOGO in these products. The current proportion of FOGO in products produced by BHRC and SMRC is aligned

with their targets (Figure 5), while Purearth indicated they have set higher targets for inclusion which they are currently working towards over the next 3 years.

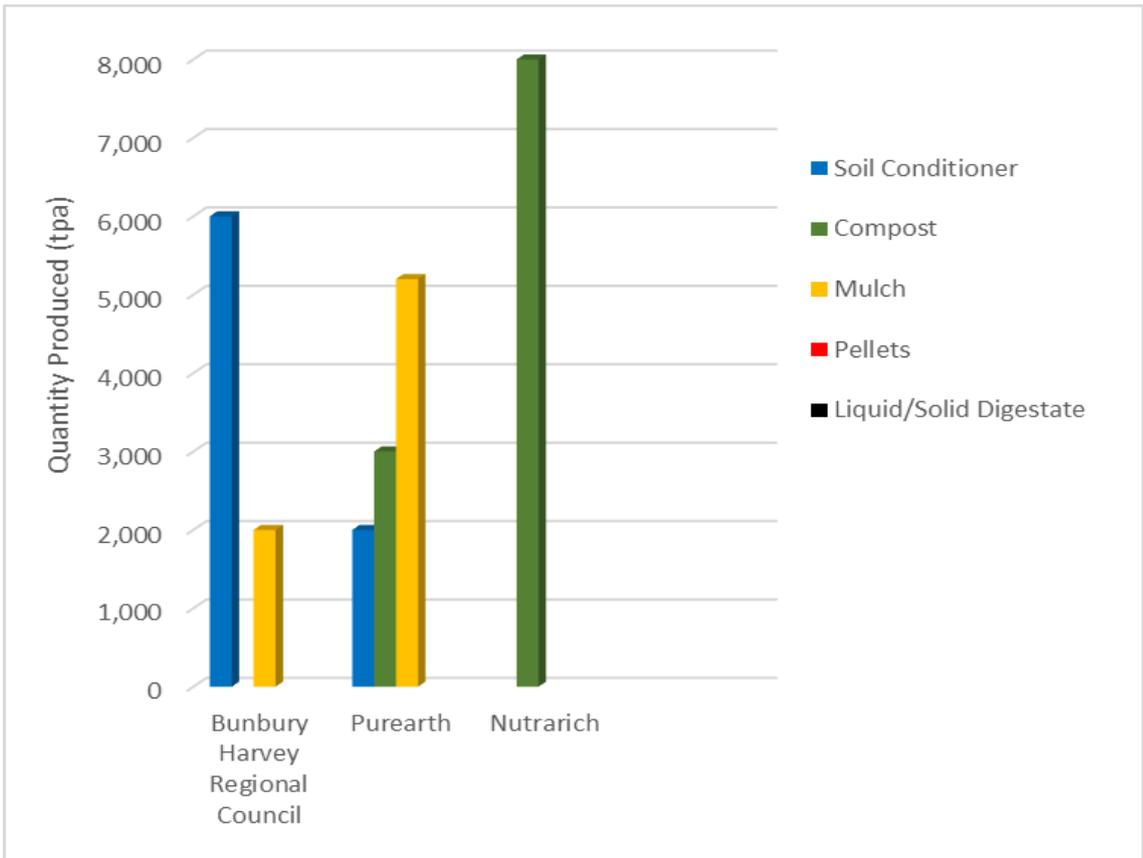


Figure 3 Products currently produced by WA organics processors

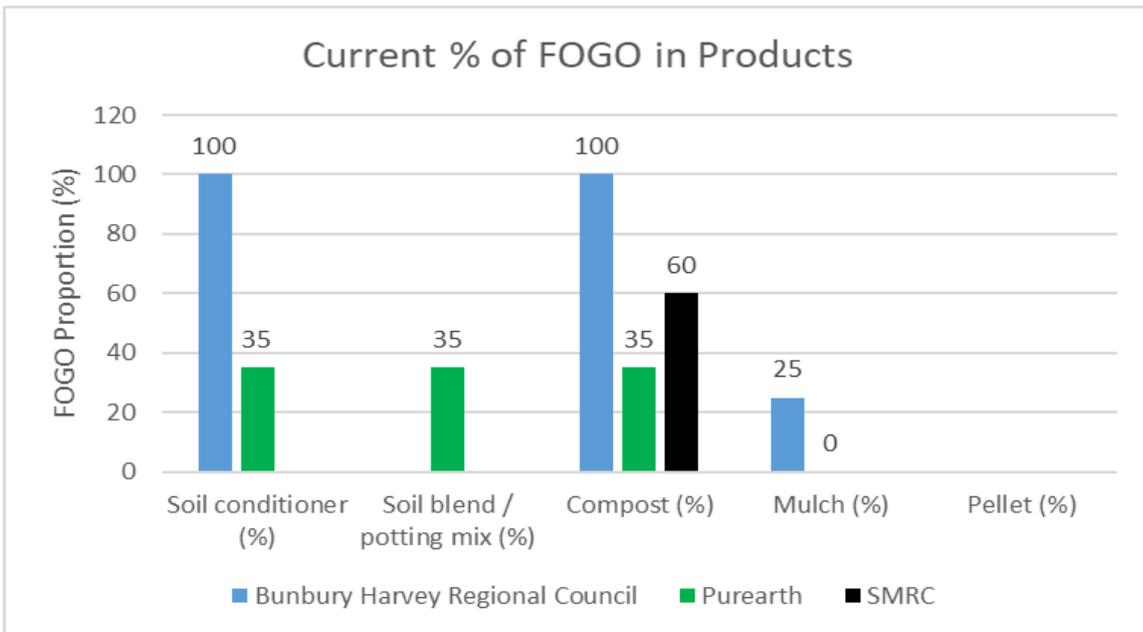


Figure 4 Proportion of FOGO in products produced by WA organics processors

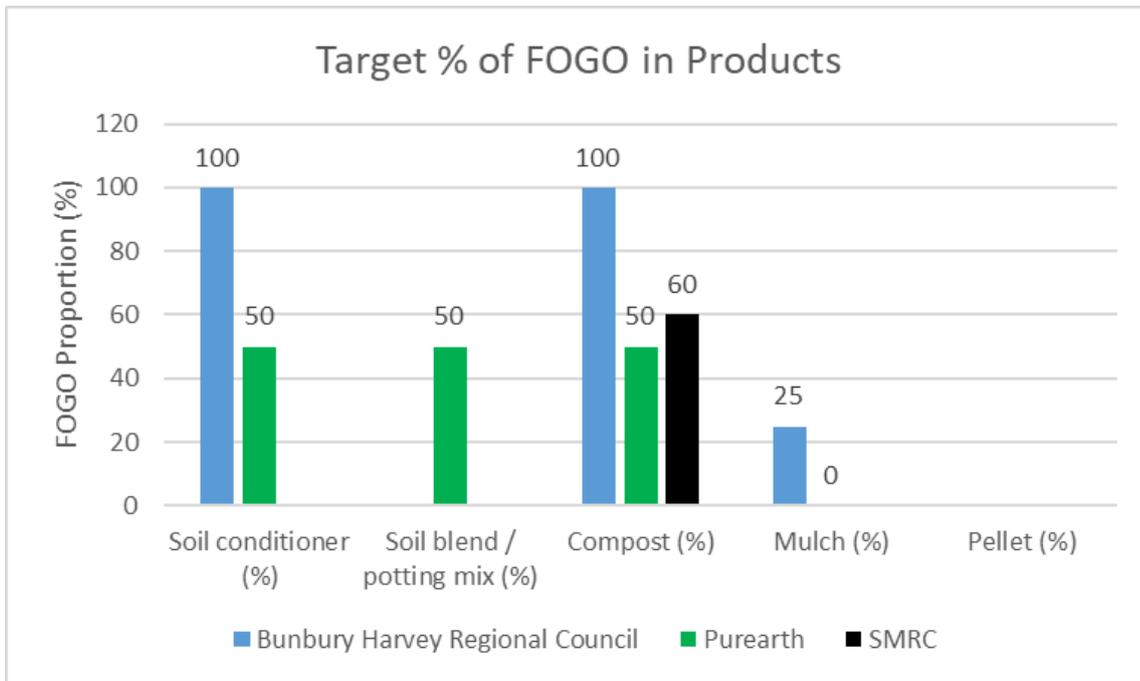


Figure 5 WA organics processors - stated targets for incorporation of FOGO in products

### 3.3.3 Current standards, certifications and guidelines

Figure 6 presents standards and guidelines informing current manufacturing processes of the processors who engaged in the online survey. All processors are currently producing products in accordance with AS 4454. Bunbury Harvey Regional Council are also understood to be using AS 6000 and DWER's Better Practice Composting Guideline to inform their manufacturing processes.

Four processors agreed that AS4454 should be revised or amended.

The following recommendations were made:

- Criteria (i.e. for contamination) within the standard could be modified to suit different markets
- Quality management controls (i.e. sampling regimes) should be strengthened, with consideration of cost benefits.

### Standards / certification / guidelines informing current manufacturing processes



- Australian Standard AS 4454 Composts, soil conditioners and mulches
- AS 3743 Potting Mixes
- AS 4419 Soils for landscaping and garden use
- AS 6000 Australian Standard for Organic and biodynamic products
- Fresh Care Food Safety and Quality Program
- DWER Guideline: Better Practice Composting

Figure 6 Standards, certification, guidelines informing current manufacturing processes

### 3.3.4 Processing projections for FOGO

Projected volumes of FOGO received by 2025 and volumes of FOGO-derived products expected to be produced are displayed in Figure 7. SMRC is understood to be targeting pre-processing and transfer 100,000 tpa of FOGO feedstock by 2025. SMRC currently outsources composting of FOGO.

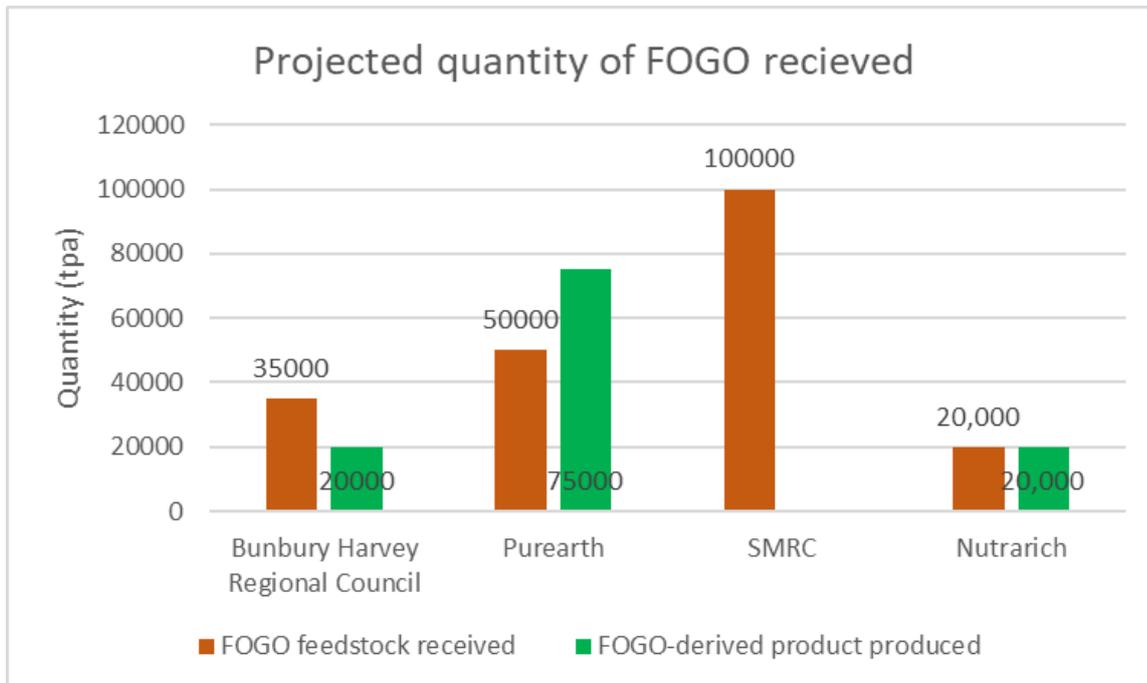


Figure 7 Projected volume of FOGO received (by 2025) and product produced

### 3.3.5 Technologies

When asked whether they would consider advanced processing technologies to produce high quality FOGO-derived products and/or renewable energy (for example via anaerobic digestion) (Table 3), processors identified insufficient funding as the key barrier to the uptake of new technologies. Purearth expressed interest in adopting a biochar manufacturing process.

Table 3 Processor views on advanced processing technologies

	BHRC	Purearth	SMRC	Nutrarich
None of the above			✓	
Yes Anaerobic Digestion (dry technology)				
Yes Anaerobic Digestion (wet technology)				
Yes Energy from waste (for biochar)				
No because there are not enough legislative drivers				
No because there is not enough funding available	✓			✓
Other (please specify)		Yes, prepared to include a biochar manufacturing process, without reverting to WTE.		

## 3.4 Local Government

### 3.4.1 Overview

Of the 33 Local Governments within the Perth and Peel region (Table 4Table ), 31 were contacted directly however only 13 responded to the online survey. Waroona and Murray were not contacted directly given their non-urban/rural locational settings. Follow up interviews were undertaken with the City of Cockburn and City of Melville.

Table 4 Local Governments of the Perth and Peel region

Local Government	Completed survey	Interviewed	Currently collecting FOGO	Planning to introduce FOGO collection services
City of Armadale			No	
City of Bayswater			Yes, since March 2021	
City of Belmont			No	Yes by 2023
City of Canning			No	
City of Cockburn		Yes	No	

Local Government	Completed survey	Interviewed	Currently collecting FOGO	Planning to introduce FOGO collection services
City of Fremantle	Yes		Yes (since 2019)	n/a
City of Gosnells	Yes		No	Yes (2025)
City of Joondalup			No	
City of Kalamunda	Yes		No	Yes by 2023
City of Kwinana	Yes		No	No
City of Mandurah	Yes		No	No
City of Melville	Yes	Yes	Yes (since 2017)	n/a
City of Nedlands			No	
City of Perth	Yes		Collecting FO and GO separately (since 2017)	Yes (2022/23)
City of Rockingham			No	
City of South Perth			No	
City of Stirling	Yes		No	Yes (2025)
City of Subiaco	Yes		No	Yes (2022)
City of Swan	Yes		No	Yes (2023)
City of Vincent			No	Yes
City of Wanneroo	Yes		No	Yes (2025)
Shire of Mundaring			No	Yes by 2023
Shire of Peppermint Grove			No	
Shire of Serpentine-Jarrahdale			No	
Town of Bassendean	Yes		Yes (since Aug 2020)	n/a
Town of Cambridge	Yes		No	Yes (2023/24)
Town of Claremont			No	
Town of Cottesloe			No	
Town of East Fremantle			Yes (since 2019)	
Town of Mosman Park			No	
Town of Victoria Park			No	

Of the Local Governments that completed the survey, three (3) are currently collecting FOGO, one (1) is collecting FO and GO separately, and seven (7) are not currently collecting FOGO but plan to introduce FOGO collection services by 2025 (Figure 8).

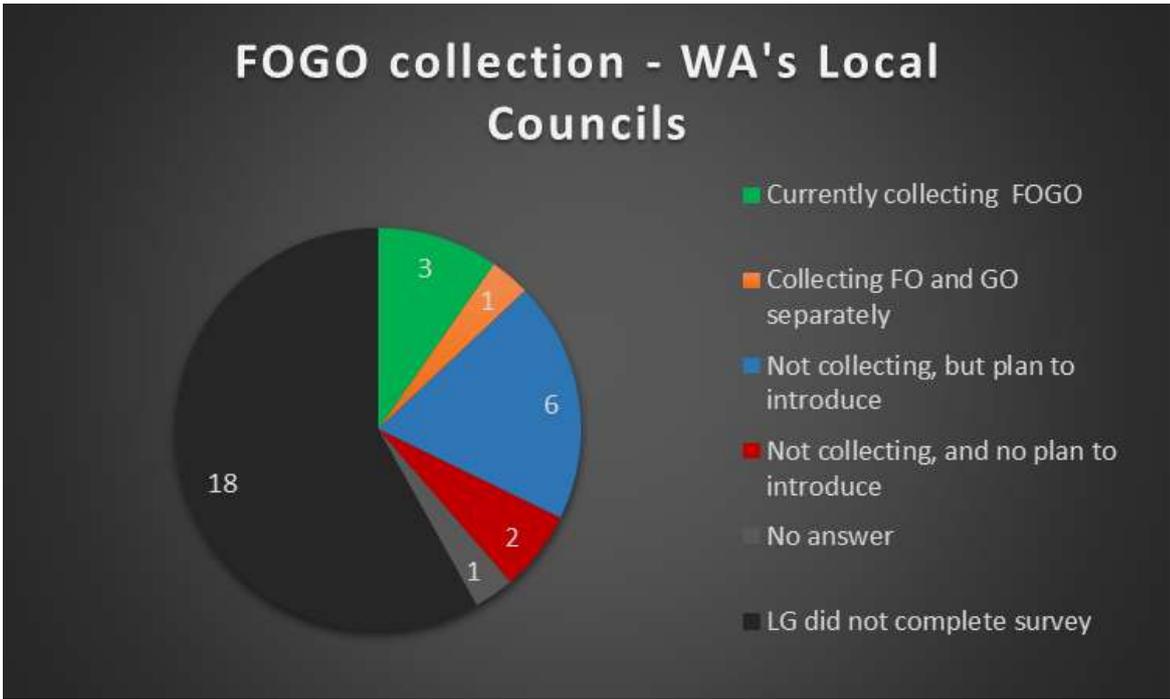


Figure 8 Current status of FOGO collection in the Perth and Peel region

### 3.4.2 FOGO collection projections

Six local Councils shared the volumes of FOGO that they are currently collecting and/or planning to collect by 2025 and 2030. The volumes presented in Figure 9 represent a sub-set of the total volumes projected for the Perth and Peel region (refer to Appendix A for FOGO projections).

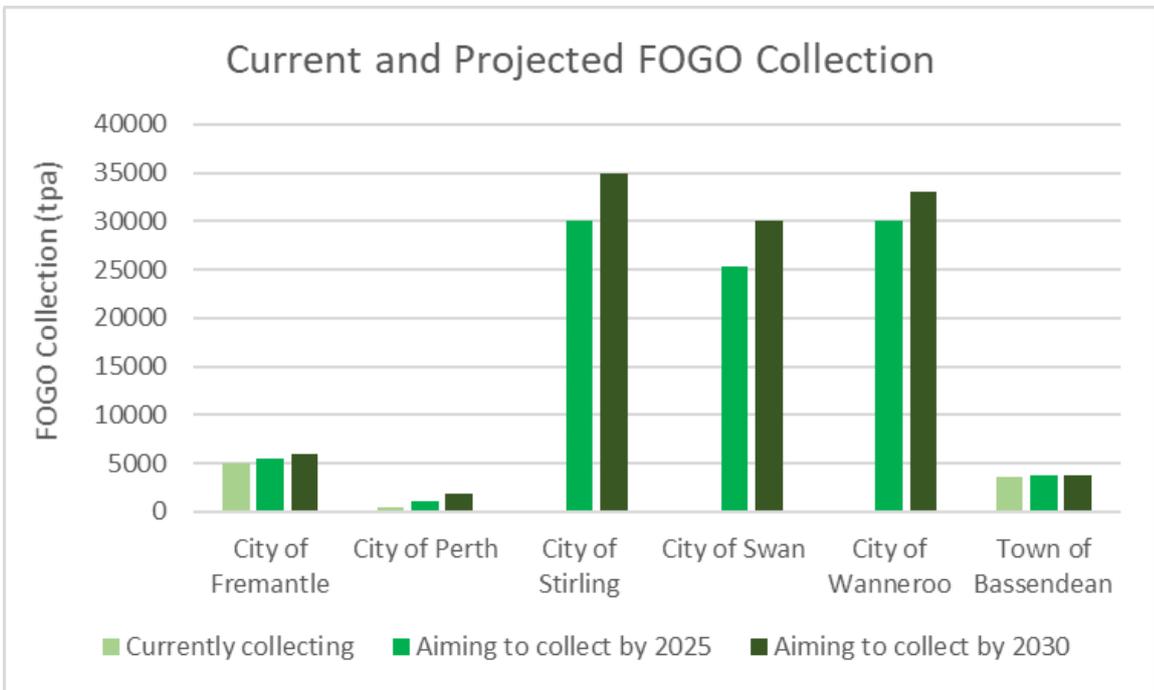


Figure 9 Current and projected FOGO collection volumes from survey respondents

### 3.4.3 Key drivers for introducing FOGO collection services

Local Governments identified four key drivers that have influenced, or would influence, their decision to introduce FOGO collection services (Figure 10). The top two drivers were:

- Achieving the WA Waste Strategy 2030 targets
- Acting in accordance with legislative / policy requirements.

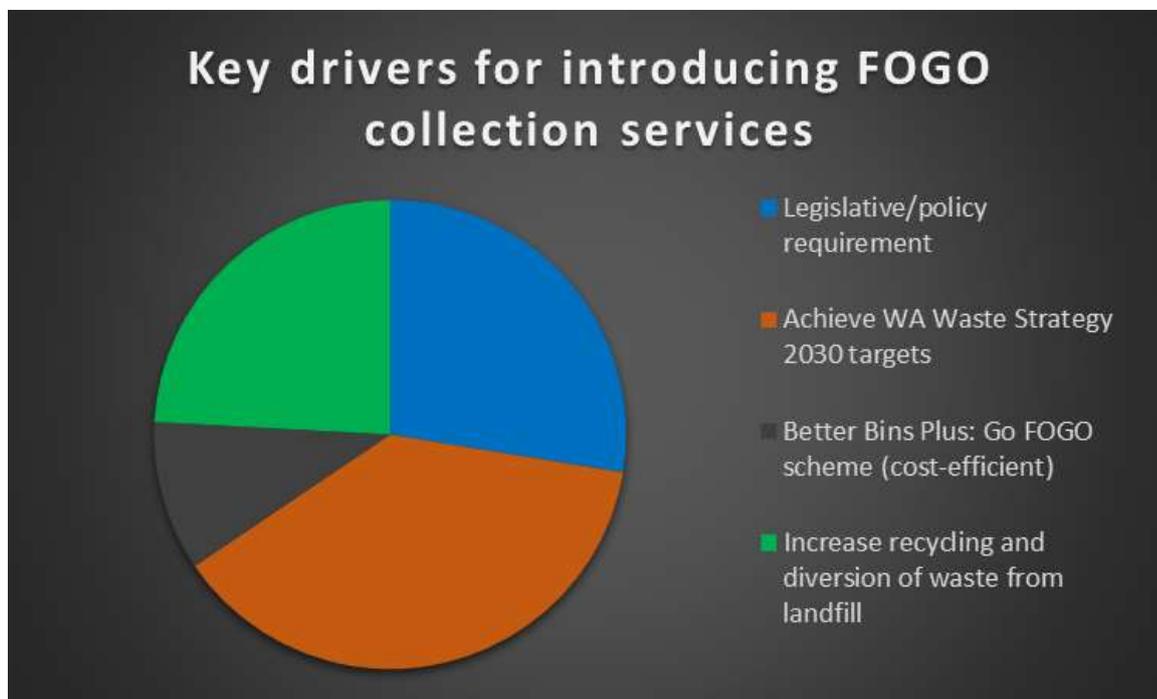


Figure 10 Key drivers for Local Government to introduce FOGO collection services

When asked what statement best described their commitment to using recycled organics such as FOGO-derived compost, the majority responded that they were “interested in using recycled organics, however, we have not yet set clear targets and actions”. A summary of Local Government responses is presented in Figure 11.

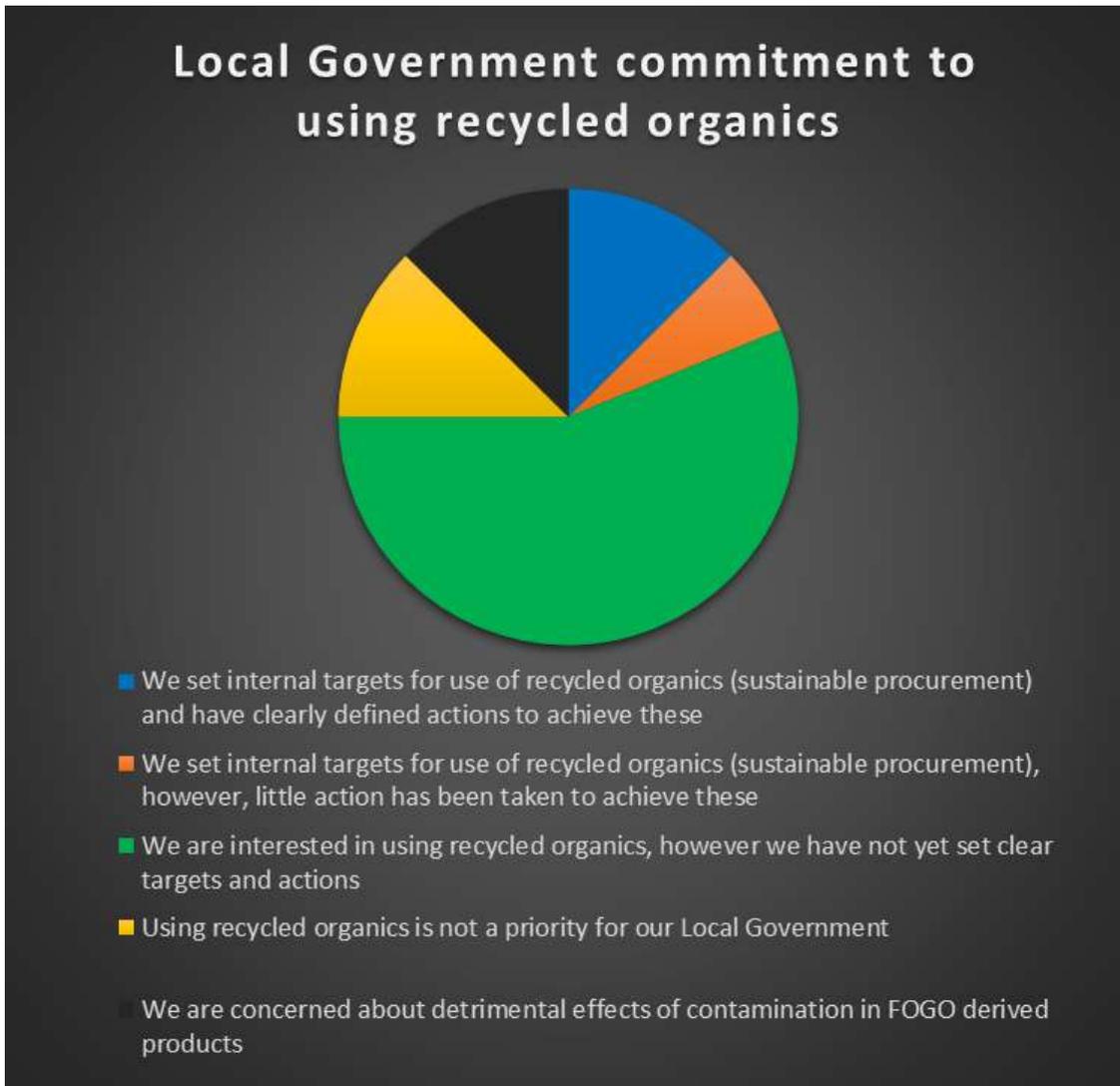


Figure 11 Local Government commitment to using recycled organics

### 3.4.4 Strategies

A summary of strategies supported by Regional and Local Governments is presented in Figure 12. The most popular strategies (supported by at least 10 respondents) included:

- Offering low cost, or free, composted FOGO products to residents
- Monitoring (or increasing monitoring of) contamination in feedstocks
- Pursue interventions to reduce contamination of feedstock.

When Local Governments were asked how they might participate in sharing the responsibility of contamination with processors (Figure 13) the responses were divided. Some respondents supported the ‘contamination sharing’ options provided, while others felt that processors should be primarily responsible for managing contamination of the feedstock.

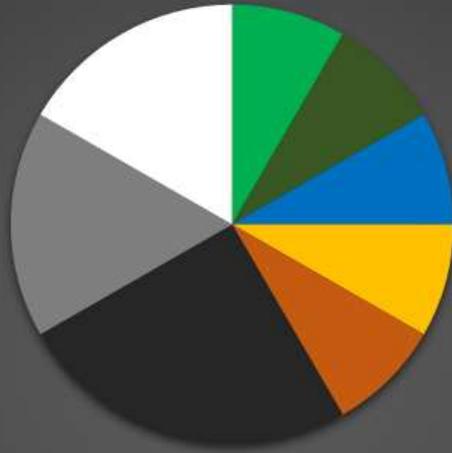
## Strategies proposed by regional/local Government



- Inclusion of a product 'buy back' clause in contracts with processors?
- Offer low cost or free composted FOGO products to residents
- Incorporate usage of recycled organics into your procurement system
- Pursue interventions to reduce contamination of feedstock
- Monitor (or increase monitoring of) contamination in feedstocks
- Additional sampling and analysis of FOGO products, in conjunction with processor (e.g. shared cost)

Figure 12 Strategies supported by Regional and Local Government

## Strategies proposed by Local Government for sharing contamination responsibility



- Offer free landfill disposal for contaminants?
- Guarantee <5% feedstock contamination?
- LGs to establish targets for decreasing contamination over contract period
- Penalties if mandated feedstock contamination levels are not met
- Processor gate fee reflects contamination levels
- Processors are primarily responsible for managing contamination
- Work with processors to identify contaminants and develop solutions
- Unsure

Figure 13 Strategies supported by Local Government for sharing contamination responsibility

### 3.4.5 Comment received

The City of Kalamunda shared the following feedback regarding sustainable procurement and recommendations for FOGO product market development:

- Clear internal targets must be established to measure progress against sustainable procurement objectives.
- Landfill levies could be used to support Local Government to develop and operate organics processing facilities.
- Ensure additional costs associated with collecting and processing FOGO is not transferred to ratepayers.

## 4. Market feedback

### 4.1 Survey participation

Of the sub-markets identified through background research (Appendix A – Table 13), the following participated in the online survey:

- Local Government (parks and gardens)
- Road Development (major projects)
- Rail Development (major projects)
- Mine Rehabilitation
- Extensive Agriculture (cereal and livestock)
- Extensive Agriculture (forestry, including sandalwood)
- Intensive Agriculture (grazing)
- Intensive Agriculture (hemp)
- Intensive Agriculture (orchards – olive)

The following sub-markets did not participate in the online survey and therefore are not considered further in this section. Below is a brief overview of the potential for use of FOGO-derived products in these markets.

#### 4.1.1 Property development (major projects)

There is potential for FOGO-derived products to be used by this market for urban landscaping. Refer to Appendix B for an assessment of the Urban Amenity market.

#### 4.1.2 Remediation consultants

There is potential for FOGO-derived products to be used by this market. Market research shows that FOGO-derived products can be useful in remediation activities. Phone conversations with two remediation consultants suggested there was an interest in FOGO-derived products and how these could be used in remediation activities, however, neither consultant completed the online survey.

Demand is expected to be intermittent, given the generally discontinuous nature of remediation projects. The market potential could not be estimated due to the lack of engagement.

#### 4.1.3 Intensive agriculture (vineyards / viticulture)

There is potential for FOGO-derived products to be used by this market, however, the market potential could not be estimated due to the lack of engagement.

It is expected that interest for FOGO-derived products may mirror that of olive growers. Insights from peak body, Olives WA, may provide an indication of product types and certification/regulation this market is looking for to trust and use FOGO-derived products.

#### 4.1.4 Intensive agriculture (turf production)

There is potential for FOGO-derived products to be used by this market, however, this market is expected to be sensitive to physical contaminants (e.g. glass) and chemical contaminants (e.g. persistent herbicides).

The market potential could not be estimated due to the lack of engagement.

#### 4.1.5 Intensive agriculture (market gardens / intensive horticulture)

Consultation with Department of Primary Industries and Regional Development (DPIRD) via interview indicated that the market garden / intensive horticulture sector is a more fragile market (with respect to contamination), is

expected to have a lower uptake (5-10% interested), and use much smaller quantities of product than other agricultural enterprises. The sensitivity to chemical contamination largely around persistent herbicides and also concerns that chemicals being more easily transferred to the edible portion (fruit/seed/leaf) in leafy green vegetables and fruits (compared with grains). Food produce is tested both for local use and export, hence there is a no tolerance for chemical or heavy metal contamination. Furthermore, this market would seek demonstration of not just the product performance, but how this product can be used with other products and practices to achieve the best outcome. There would need to be substantial investment in trials and field days to reach this market.

The market potential could not be estimated due to the lack of engagement.

#### 4.1.6 Intensive agriculture (orchards – citrus / avocado)

There is potential for FOGO-derived products to be used by this market, however, the market potential could not be estimated due to the lack of engagement.

Tree crop farmers, in particular those looking to transition towards organic certification, understand the value that FOGO-derived products can offer. Many are seeking organic amendments to use in place of synthetic fertilizers (pers comm. Steve Milton – Olives WA). The primary competing product is mulch, a cheaper alternative, which is used for controlling weeds, protecting against disease, retaining soil moisture, and reducing soil erosion (as a surface soil amendment). Growers understand that FOGO-derived products can deliver nutrients in combination with these other treatments. It is expected that FOGO-derived products would be used in combination with mulch, to reduce synthetic fertilizer use and improve water use efficiency. This market may be more tolerant to physical contaminants (e.g. plastics, glass), but is sensitive to chemical contaminants and heavy metals as produce is tested for local use and export (pers comm. Patrick Page - DPIRD).

While no avocado growers were engaged through the online survey, BHRC have advised of sale of FOGO-derived products into this market. Orchards with high value produce, such as avocado growers, are more likely to have suitable profit margins to afford to incorporate FOGO-derived compost in their production regimes, assuming the product is of consistent quality and free of contaminants.

### 4.2 Demand for organics

#### 4.2.1 Soil quality challenges

One of the primary beneficial uses of FOGO-derived products in the agricultural sector (both extensive and intensive) is to apply the product as a soil amendment (refer to Table for the perceived benefits of this practice). Table 5 identifies reported soil quality drivers/constraints for selected agricultural sectors.

Table 5 Soil quality constraints (agricultural sector)

	Extensive Ag (cereal and livestock)	Extensive Ag (forestry)	Intensive Ag (grazing)	Intensive Ag (hemp)	Intensive Ag (orchards)
Non-wetting soils	✓	✓		✓	
Sub-soil acidity	✓				
Sub-soil alkalinity					
Water logging	✓				
Excess surface water run-off				✓	
Nutrient deficiencies	✓	✓	✓	✓	✓
Low organic matter	✓			✓	
Salinity			✓		
High magnesium			✓		

Local Government, major projects (road/rail) and mine rehabilitation are more interested in applying FOGO-derived compost to improve plant establishment and resilience, and to protect soils from erosion.

## 4.2.2 Current use of recycled organic products

All end-markets nominated in the survey, except the forestry industry, have previously applied some form of organic material; Table 6 highlights those products most commonly applied. As shown, mulch is the most widely used (four end-markets), followed by soil conditioners (three end-markets) and manure/digestate (two end-markets). Local Governments who are more familiar with recycled organic product types, were also given the opportunity to select for certified products, which were favoured over uncertified products.

Table 6 Organic products currently in use

Products	Local Govt - Parks and Gardens	Road Devt (Major Projects)	Mine Rehab	Extensive Ag (cereal and livestock)	Extensive Ag (forestry)	Intensive Ag (grazing)	Intensive Ag (hemp)	Intensive Ag (orchards)
Soil conditioner	✓ (AS4454 certified)	✓					✓	
Soil blend / potting mix	✓ (AS3743 certified)							
Landscaping soil	✓ (AS4419 certified)							
Compost	✓ (AS4454 certified & non-certified)							
Mulch	✓	✓	✓					✓
Pellets							✓	
Manure				✓			✓	
Lime amended biosolids				✓				
Liquid / solid digestate	✓ (non-certified)					✓ Worm juice (bio-dynamic 500)		

Application rates for organic products in the agricultural sector were not comprehensively shared through the online survey. However, for those sub-markets which responded to this question, the application of soil conditioners, pelletised products and manures was reported to be in the order of 2 to 10 tonnes/hectare (the lower limit representing intensive agriculture in potentially higher quality agricultural soils, and the upper limit representing broad-acre agriculture in potentially lower quality soils).

Stakeholders consulted from the Road Development and Mine Rehabilitation sectors were not able to provide details of application rates and volumes. However, compost trials have demonstrated that application rates of approximately 10 tonnes/ha is suitable for rehabilitation of road embankments (WMR 2019, NSW EPA 2018).

Table 7 provides indicative application volumes for organic products as reported by survey respondents.

Table 7 Volume of organic product(s) used (tonnes per hectare)

Products	Local Govt - Parks and Gardens	Road Devt (Major Projects)	Mine Rehab	Extensive Ag (cereal and livestock)	Extensive Ag (forestry)	Intensive Ag (grazing)	Intensive Ag (hemp)	Intensive Ag (orchard)
Soil conditioner	✓	✓					✓	
Soil blend / potting mix	✓							
Landscaping soil	✓							
Compost	✓							
Mulch	✓	✓	✓					✓
Pellets							✓	
Manure				✓			✓	
Lime amended biosolids				✓				
Liquid / solid digestate	✓					✓		

### 4.2.3 Method of application

Each market has very different application methods which center around existing activities and the benefits the market is seeking (e.g. erosion control or soil amendment). Table 8 outlines some considerations with respect to application methods, timing and how this might influence the preferred product type.

Table 8 Method of applying recycled organics

	Primary reason for applying organics	Application timing	Current method	Product innovations / considerations
LG - Parks and Gardens	Landscaping Suppress weeds Protect against pathogens	Autumn	Apply to surface	Similar products desirable to enable use of existing equipment / expertise
Road Development (Major Projects)	Erosion control Improved seedling establishment	Any time (project specific)	Apply to surface (for erosion control) or incorporate (to deliver nutrients)	
Mine Rehabilitation	Erosion control Improved seedling establishment	Any time (project specific)	Apply to surface (for erosion control) or incorporate (to deliver nutrients)	
Extensive Agriculture (cereal and livestock)	Soil conditioner Improved productivity	Summer / Autumn	Apply to surface and incorporate with plough	If pelletised product, could apply whilst seeding (time and cost benefits)
Extensive Agriculture (forestry)	Soil conditioner Improved seedling establishment	Autumn (once-off prior to planting in winter)	Apply to surface and incorporate with plough	

	Primary reason for applying organics	Application timing	Current method	Product innovations / considerations
Intensive Agriculture (grazing)	Soil conditioner Improved productivity	Summer / Autumn	Apply to surface and incorporate with plough	If pelletised product, could apply whilst seeding (time and cost benefits)
Intensive Agriculture (hemp)	Soil conditioner Improved productivity	Summer / Autumn	Apply to surface and incorporate with plough	
Intensive Agriculture (orchards)	Soil conditioner Suppress weeds Protect against pathogens	Autumn	Apply to surface	

## 4.3 Interest in FOGO-derived products

### 4.3.1 Perceived benefits (drivers for uptake)

Table 9 presents a summary of perceived benefits from applying FOGO-derived compost, by end-markets who participated in the survey.

Due to the greater engagement by Local Government representatives in completing this survey, Figure 14 has been included to demonstrate key drivers for Local Government specifically. The numbers represent the total number of times each option was selected. As shown, the primary drivers for using FOGO-derived products include:

- Closing the loop on our organic waste and supporting circular economy
- Improve soil structure/quality (including nutrient and water retention)
- Reduce quantity of synthetic fertilizers applied (or number/regularity of applications).

**Table 9** Perceived benefits of FOGO-derived compost

	Local Govt	Road Devt (Major Projects)	Mine Rehab	Extensive Ag (cereal and livestock)	Extensive Ag (forestry)	Intensive Ag (grazing)	Intensive Ag (hemp)	Intensive Ag (orchard)
Reduce quantity of synthetic fertilizers applied (or number/regularity of applications)	✓			✓				✓
Improve productivity (plant growth)				✓	✓			
Improve soil structure/quality (including nutrient and water retention)	✓			✓		✓	✓	✓
Increase soil organic carbon				✓				
Improve soil biology	✓			✓			✓	
Improve plant resilience (to drought/disease/ pest)		✓				✓		✓

	Local Govt	Road Devt (Major Projects)	Mine Rehab	Extensive Ag (cereal and livestock)	Extensive Ag (forestry)	Intensive Ag (grazing)	Intensive Ag (hemp)	Intensive Ag (orchard)
Reduce nutrient leaching/losses	✓							
Prevent soil erosion		✓	✓					
Reduce surface water run off								
Improved seedling survival	✓	✓	✓		✓			
Reduce irrigation requirements and costs								
Cost savings (short/long term)	✓	✓	✓		✓	✓		
Increased profits (short/long term)				✓	✓			
Closing the loop on our organic waste and supporting circular economy	✓							

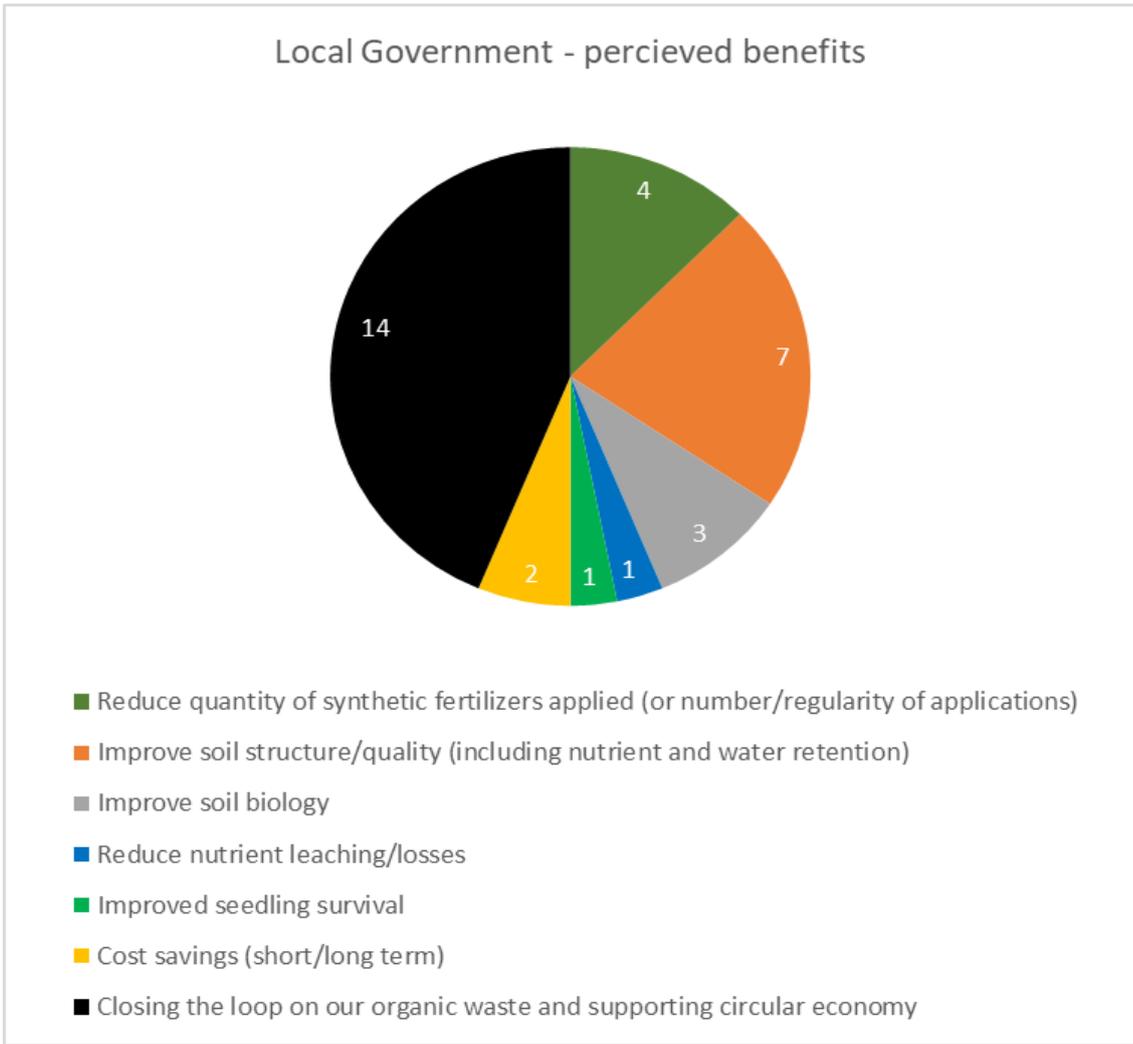


Figure 14 Key drivers for purchase of FOGO-derived products by Local Government

### 4.3.2 Predicted uptake

Survey respondents were asked to indicate the anticipated uptake of FOGO-derived products in their sector, assuming the products met their expectations with regards to quality, consistency and price. The results are presented in Figure 15. While this graph is an indicator of interest only and would require further validation with markets, what it does show is that there is interest for FOGO-derived products and a willingness to use FOGO-derived products over current products if it makes sense from a cost and other perspective (refer to Section 5 for key barriers relating to each market).

Both Main Road WA and METRONET (Major Road/Rail Development Projects) were not able to indicate a percentage uptake at this early stage, however, were interested in how this product could be used in their rehabilitation activities.

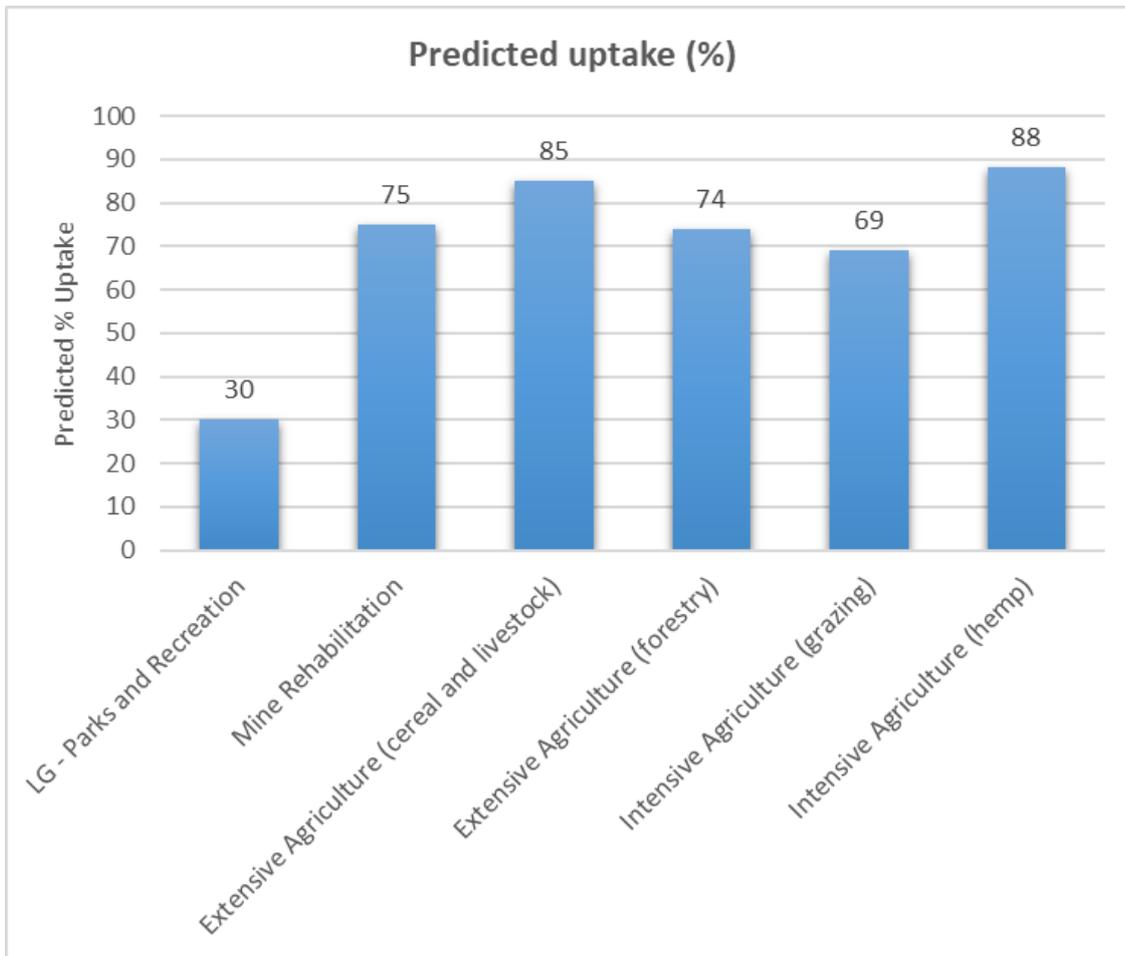


Figure 15 Market feedback on potential uptake (%)

## 4.4 Market expectations for FOGO-derived products

### 4.4.1 Pricing

#### 4.4.1.1 Price points for organic products

The most popular price point for FOGO-derived compost was \$10 to 20 per tonne (Table 10). This price range represents the upper limit for extensive agriculture (cereal, livestock, forestry) and intensive agriculture (grazing, hemp). Respondents indicated that for FOGO-derived products to establish in new markets, the initial cost of these products would need to be low (or free), particularly if the end user were paying for transport.

Local Governments had varied opinions on acceptable price points, as show in Figure 16.

Table 10 Product price points

Market	Competing products	Price of competing products	Willingness to pay for FOGO-derived products (\$/tonne)
LG - Parks and Gardens	Soil conditioner	Not provided	\$0 - 60
	Soil blend / potting mix	Not provided	
	Landscaping soil	Not provided	
	Compost	Not provided	
	Mulch	Not provided	
	Liquid / solid digestate	Not provided	
Road Development (Major Projects)	Soil conditioner	Not provided	<i>Similar or cheaper price</i>
	Mulch	Not provided	
Mine Rehabilitation	Mulch	Not provided	<i>Similar or cheaper price</i>
Extensive Agriculture (cereal and livestock)	Synthetic fertilizers	Not provided	<i>Similar or cheaper price than organics</i>
	Chicken manure/litter	\$10-20 m <sup>3</sup> (delivered)	
	Municipal biosolids cake / lime amended biosolids (a registered waste used by some broad-acre farmers licenced to receive it)	\$0.5 – 1.00	
Extensive Agriculture (forestry)	Synthetic fertilizers	Not provided	<i>Dependent on product quality, consistency and benefits delivered</i>
Intensive Agriculture (grazing)	Synthetic fertilizers	Not provided	\$10 – 20
	Worm juice (bio-dynamic 500)	Not provided	
Intensive Agriculture (hemp)	Soil conditioner	Not provided	\$10 – 20
	Pellets	Not provided	
	Manure	Not provided	
Intensive Agriculture (orchards)	Mulch	Free (from tree trimmings, GO from Local Councils)	\$5 – 10

## 4.4.2 Transport

Although a range of responses were received around potential interest in purchasing FOGO-derived products in a range of markets. Transport costs are a significant cost variable that can constrain access to products in certain markets. More information on transport cost considerations is included in Appendix A and Appendix B.

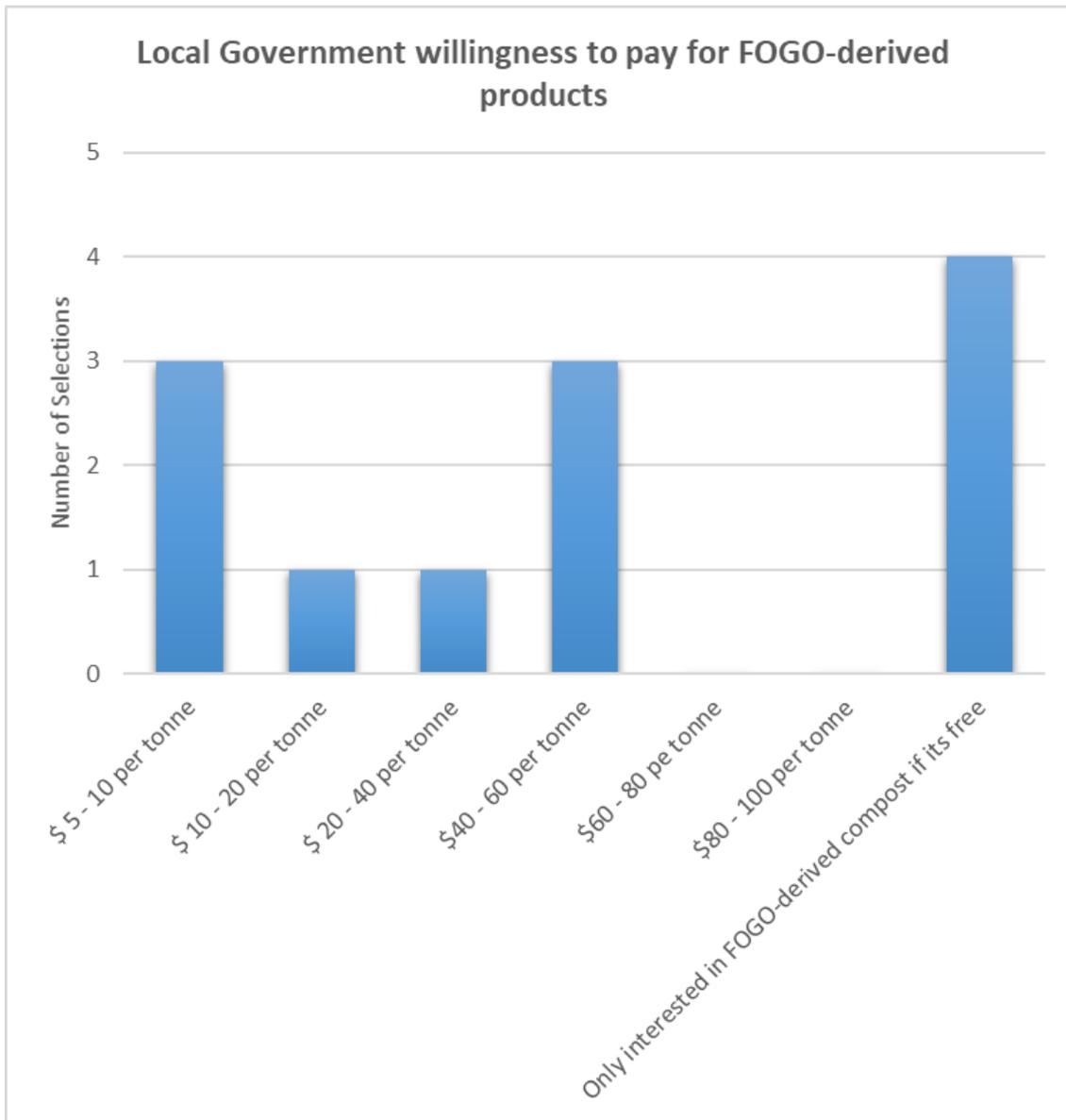


Figure 16 Product pricing – Local Government willingness to pay

### 4.4.3 Contamination tolerance

All markets (existing and potential) expressed an overall intolerance for contamination. Table 11 provides an overview of those contaminants which were considered ‘fatal flaws’ for this market. In some markets, for example, mine rehabilitation and extensive agriculture (forestry) physical contaminants such as glass are undesirable, however, there is some ability to tolerate random occurrence of this type of contamination due to limited public interaction and the absence of livestock.

Main Roads WA would be unique in their ability to tolerate low levels of chemical and heavy metal contamination, as this end-user is already managing contaminated run-off from roads (in particular hydrocarbons).

Table 11 Market intolerance for contamination

	Local Govt - Parks and Gardens	Road Devt (Major Projects)	Mine Rehab	Extensive Ag (cereal and livestock)	Extensive Ag (forestry)	Intensive Ag (grazing)	Intensive Ag (hemp)
Weeds	✗	✗	✗	✗	✗	✗	✗
Disease (e.g. pathogens)	✗	✗	✗	✗	✗	✗	✗
Plastic contamination	✗	Not desirable but some tolerance	✗	✗	Not desirable but some tolerance	✗	✗
Glass contamination	✗	Not desirable but some tolerance	Not desirable but some tolerance	✗	Not desirable but some tolerance	✗	Not desirable but some tolerance
Chemical contamination	✗	Some tolerance	✗	✗	✗	✗	✗
Heavy metals contamination	✗	Some tolerance	✗	✗	✗	✗	✗

#### 4.4.4 Preferred standards, certification, guidance

When asked what standards, certification and guidance were important for encouraging uptake of FOGO-derive products, those identified as being most important by each stakeholder group (scoring of 1 or 2 – out of the 8 options provided) are highlighted in Table 12. Due to the higher number of responses received from regional and local government, multiple ticks were used to indicate popularity (one tick 1-5 selections, two ticks 6-10 selections, three ticks 11-15 selections).

Three additional standards / certification / guidance were recommended by processors:

- Agricultural and Resource Management Council of Australia and New Zealand (ARMCANZ)
- NASAA Certified Organic (NCO) Certificate of Registration
- DEC WA (2012) ‘Western Australian Guidelines for Biosolids Management’

Table 12 Market preferred standards, certification and guidance

	Govt (National / State)	Regional Local Govt / Local Govt	Peak Body - Organics Recycling	Organics Processor	Agriculture	Mine Rehab	Road Devt (Major Projects)
AS 4454 Composts, soil conditioners and mulches	✓	✓✓✓	✓	✓	✓	✓	✓
AS 3743 Potting Mixes	✓	✓✓					✓
AS 4419 Soils for landscaping and garden use	✓	✓✓✓	✓	✓	✓	✓	✓

	Govt (National / State)	Regional Local Govt / Local Govt	Peak Body - Organics Recycling	Organics Processor	Agriculture	Mine Rehab	Road Devt (Major Projects)
AS 6000 Organic and biodynamic products	✓	✓ ✓			✓		
Fresh Care Food Safety and Quality Program	✓						
DWER Guideline: Better Practice Composting	✓	✓	✓	✓	✓		
DPIRD General Guidance Use of composts in agriculture and food production	✓	✓		✓	✓		
EcoHort EMS Certification		✓		✓			

## 4.5 Trials

### 4.5.1 Interest in participating

All markets who engaged in the online survey indicated that trials would be a useful means of demonstrating cost and other benefits of applying FOGO-derived products.

Local Government respondents showed a 50% interest in trial participation, with the following Local Governments interested to learn more:

- City of Fremantle
- City of Wanneroo
- Town of Bassendean
- City of Kwinana
- Town of Cambridge
- City of Melville
- Eastern Metropolitan Regional Council
- Southern Metropolitan Regional Council

In the agricultural sector both forestry and hemp growers were interested in on-farm trials. While the extensive agriculture (cereal and livestock) farmers recommended that trials were facilitated through local grower groups, rather than individual farmers.

One of the respondents from intensive agriculture (grazing) recommended that trails be run through groups like Katanning Landcare, who are currently undertaking compost comparison trials.

Interviews undertaken with Main Roads WA and Department of Mines, Industry Regulation and Safety (DMIRS) suggested that the road development and mine rehabilitation sectors might also be interested in learning more.

## 4.5.2 What successful trials should demonstrate

Table 13 provides an overview of what each market would be looking to understand from trials with FOGO-derived products, which if achieved, would encourage uptake of these products into the respective markets. Across all markets, the most important outcomes to be demonstrated through trials include:

- Long term cost savings
- Consistent low levels of contamination (reliable product quality).

Due to the higher number of responses received from regional and local government, multiple ticks were used to indicate strong support/popularity of response (one tick 1-5 selections, two ticks 6-10 selections, three ticks 11-15 selections).

Table 13 Desired outcomes for trials

	LG - Parks and Gardens	Road Development (Major Projects)	Mine Rehabilitation	Road Development (Major Projects)	Extensive Agriculture (cereal and livestock)	Extensive Agriculture (forestry)	Intensive Agriculture (grazing)	Intensive Agriculture (hemp)	Intensive Agriculture (orchards)
Cost savings (short-term)	✓				✓	✓			
Cost savings (long-term)	✓ ✓	✓	✓		✓		✓	✓	
Increased profits (short term)									
Increased profits (long term)						✓		✓	
Confirm low levels of contamination (reliable product quality)	✓ ✓ ✓	✓	✓		✓	✓		✓	
Higher water use efficiency	✓ ✓								
Improved plant establishment/survival	✓ ✓	✓	✓			✓			
Improved plant resilience (to drought/disease/pests)	✓ ✓		✓				✓	✓	
Effective erosion control	✓	✓	✓						
Reduce surface water run off	✓		✓					✓	
Higher yields/productivity					✓	✓			
Better soil conditions after multiple/repeat applications	✓ ✓				✓		✓		
Suitable method/guidance for application and appropriate application rates	✓ ✓	✓	✓						

	<b>LG - Parks and Gardens</b>	<b>Road Development (Major Projects)</b>	<b>Mine Rehabilitation</b>	<b>Road Development (Major Projects)</b>	<b>Extensive Agriculture (cereal and livestock)</b>	<b>Extensive Agriculture (forestry)</b>	<b>Intensive Agriculture (grazing)</b>	<b>Intensive Agriculture (hemp)</b>	<b>Intensive Agriculture (orchards)</b>
Case studies of successful project implementation	✓ ✓								
Meet or exceed the performance of traditional products	✓								
Suitable for its intended purpose	✓								

## 5. Potential barriers

Table 14 presents a summary of key barriers identified by each stakeholder group. Those shaded represent barriers considered most likely by each stakeholder group (scoring of 1 or 2 – out of 10 options provided). Barriers identified by four or more stakeholder groups included:

- Lack of demonstrated benefits (including cost benefits)
- Lack of understanding of product types
- Price (if FOGO-derived products are more expensive than similar products)
- Inconsistent product quality
- Low product quality (caused by feedstock contamination)
- Unclear market strategy / policy targets on preferred uptake from State Government.

Table 14 Potential barriers identified by stakeholders

	Government (National/State)	Regional Local Government / Local Government	Peak Body (Organics Recycling)	Organics Processor	Agriculture	Mine Rehabilitation	Road Development (Major Projects)
Lack of demonstrated benefits (including cost benefits)		✓	✓		✓	✓	
Lack of understanding of product types		✓			✓	✓	✓
Poor product differentiation (similar benefits claimed by other products available at similar cost)		✓					
Price - FOGO derived product is more expensive than similar products		✓	✓		✓	✓	
Cost of transport is too high		✓			✓		
Inconsistent product quality	✓	✓			✓	✓	✓
The cost of incorporating or applying FOGO derived products		✓			✓	✓	
Lack of knowledge about benefits of using FOGO derived products		✓				✓	
Low product quality (caused by feedstock contamination)	✓	✓		✓			✓

	Government (National/State)	Regional Local Government / Local Government	Peak Body (Organics Recycling)	Organics Processor	Agriculture	Mine Rehabilitation	Road Development (Major Projects)
Unclear market strategy / policy targets on preferred uptake from State Government	✓	✓		✓			✓
Physical contamination		✓					
Chemical contamination		✓		✓		✓	
Introducing pests (weeds) and disease (pathogens)		✓		✓			
Regulatory controls and associated compliance costs					✓	✓	
Air quality impacts from processing facilities							✓
Product availability		✓			✓	✓	
No suitable products						✓	
No incentives to change		✓					
No interest in changing		✓					
Lack of education on benefits of FOGO-derived compost		✓					
Suitable end-uses		✓					
Existing product supply contracts		✓					

Stakeholder Group	Potential Barrier	Explanation
Markets (existing and potential)	Product contamination (physical and chemical)	All markets have limited tolerance for contamination. If contamination cannot be entirely removed from end products, then the market development focus should shift towards those markets with some low levels of tolerance (such as forestry, mine rehabilitation, road development).
	Inconsistent product quality	All markets are looking for consistent product quality. If product quality and benefits cannot be demonstrated, then there is little-to-no market for recycled FOGO.
	Cost of FOGO-derived products (compared with competing products)	<p>Each market has an upper limit on the price they are prepared to pay for FOGO derived products. If high quality (contaminant free) products can be produced, then FOGO-derived products are expected to be more competitive against organics products currently used by markets.</p> <p>As cost and other benefits from FOGO-derived products are yet to be demonstrated in the new markets identified, the initial price would need to be low to encourage market uptake. Once benefits are successfully demonstrated, and FOGO-derived products are embedded in the market, then pricing could be re-visited.</p> <p>Processors need to realise that all markets currently using mulch products can purchase these at low-to-no cost. Therefore, FOGO-derived products must demonstrate cost savings and other benefits to compete against low cost products such as mulch.</p> <p>Product pricing needs to take into account location of target market, and the associated transport costs.</p>
	Cost of incorporating or applying FOGO-derived products	<p>It is imperative that processors work closely with target markets to develop suitable products. This applies to quality and product type (i.e. compost vs. pellet).</p> <p>Incorporating/applying organics is expensive, hence, developing products that can be applied during existing practices (e.g. seeding, fertilizing) is essential if FOGO-derived products are to enter new markets.</p>
	Products are not tailored to interested market	Each market has different drivers and tolerance for contaminants. All markets expressed a preference for a 'contamination, weed and disease free' product. However, if the end products were of a consistent high quality majority of the time, some markets have the ability to tolerate occasional incidents of contamination more easily than others (i.e. impact of glass contamination in the mine rehabilitation market vs. LG Parks and Gardens).
	Lack of demonstrated benefits (including cost benefits)	New markets, particularly those such as extensive agriculture (forestry) who are not currently applying organics, would be looking for cost and other benefits from application of FOGO-derived products to be demonstrated. This can be achieved through undertaken trials, with the results then shared through online research platforms, conferences, and field days. Alternatively, market appropriate products can be made available at low-to-no cost to kick-start industry uptake. This would then lead to results sharing within the industry, as well as organic growth of the market via word-of-mouth.

Stakeholder Group	Potential Barrier	Explanation
	Product availability	Some markets indicated some concerns that product availability may be a barrier. This indicates a potential opportunity for processors to establish contracts for purchase of FOGO-derived products with larger end users.
Processors	The voluntary nature of Australian Standards	If Australian Standards for recycled organics (including FOGO) are voluntary, there is increased risk that low quality and/or contaminated products could be produced which could damage market trust for FOGO-derived products.
	Australian Standards are misaligned with market expectations	If the Australian Standard is not currently meeting the market expectation for quality and contamination, then there is a misalignment and increased risk that markets will choose other more reliable products.
	FO introduces physical contaminants to organics feedstock	Contamination will need to be managed (micro-plastics, persistent herbicides and glass are the most challenging to remove). Shared responsibility required by Local Government and organics processors.
	Due to the greater likelihood of contamination present in feedstock, FOGO requires more expensive processing infrastructure	Processing FOGO will require licence amendments and facility upgrades including investment in new technologies and methods for decontamination. The resulting product is not necessarily worth more to the end-market. The markets expect a consistent high quality product. Consequently, funding may be necessary to support processors in making this transition.  Longer-term a higher processing cost may require a higher 'gate fee' and/or a higher value end product. However, there remains risk that the cost of processing exceeds both the 'gate fee' and revenue from product sales. This must be viewed in light of landfill levies and the States vision for a sustainable, low waste, circular economy. Where there is potential for Local Government and processors to share processing costs (as well as any upside) this should be explored.
	No "buy back" clause in waste recovery contracts between processor and Local Governments	'Buy back' contracts would not only guarantee annual sales for a proportion of the total FOGO derived products produced, it would also drive improvements in feedstock quality (a higher quality feedstock in = a higher quality product out)
Local Government	The responsibility to 'close the loop' on municipal organics is not shared equally by Local Governments	Strategies are required to shift the mindset of Local Governments who are not currently participating in circular economy principles. Education and shared learnings between Local Councils is expected to be central to this shift.
	Poor communication between Local Government 'Parks and Gardens and 'Waste Services' departments	Opening the lines of communication between those using the end products, and those responsible for its collection including contamination control.  It is important that Waste Services and residents view FOGO as a resource rather than a waste.
	Cost for Local Governments to initiate the 3-bin-collection service	Local Governments are faced with higher costs to introduce FOGO collection services, particularly if managing contamination in feedstock. State funded community education campaigns could help to alleviate the overall cost to Local Governments.
	Existing procurement policies do not specify minimum recycled content for organics	Without clear targets for purchase of minimum recycled content, there is no driver for change within Local Governments or State Government Departments.

## 6. Potential solutions (actions, targets, strategies)

Potential actions and strategies identified from the market research phase were presented to respondents for their consideration across a series of survey questions. Respondents were given the opportunity to select up to 19 actions and strategies across the survey. Those selected by each stakeholder group are presented in Table 15 , and represent a pool of potential actions and strategies which were considered further during follow up interviews. Actions and strategies selected by end markets, government, processors and peak bodies included:

- Quality assurance to an appropriate Australian Standard
- Market specific specifications/standards/certifications
- Incentives to purchasers such as subsidies and discounts
- Funding trials to demonstrate cost (and other) benefits
- Funding education campaigns on benefits (and for LGs on how to correctly use bins).

Additional recommendations from Local Government included:

- Exploring more incentives, rather than relying on disincentives to drive improvements in product quality
- Ensuring State Government works closely with industry to locate FOGO processing facilities in suitable proximity of the Perth and Peel regions to minimise transport costs from kerbside pickups

Additional recommendations from Organics Processors included:

- Provide support for 'early adopters' as a lead mechanism to support adaptation and FOGO process commercialisation
- Ensure education programme is simple and targets broader community first (i.e. providing education through schools on the benefits of return carbon to the soil).

Table 15 Potential actions and strategies identified by stakeholders

	Government (National/State)	Regional Local Govt/ Local Govt	Peak Body - Organics Recycling	Organics Processor	Agriculture	Mine Rehabilitation	Road Devt (Major Projects)
Ensure all FOGO derived products are quality assured to an appropriate Australian Standard	✓ ✓ ✓	✓	✓	✓	✓	✓	
Tailored specifications/standards/certifications for FOGO products designed to meet the needs of specific end markets	✓ ✓	✓	✓	✓	✓	✓	✓
Introduce a new certification standard that applies to the whole supply chain (from feedstock to end product)			✓	✓			
Introduce short-term subsidies/discounts to purchasers to incentivise uptake of FOGO derived products	✓ ✓	✓	✓	✓	✓		
Fund trials to demonstrate cost and other benefits	✓ ✓	✓	✓	✓	✓	✓	
Fund education campaigns to share demonstrated benefits (e.g. importance of healthy soils for healthy food)	✓	✓		✓	✓	✓	
Support (through funding) local government investment in education and intervention to reduce contamination in their collected FOGO feedstock	✓	✓		✓			✓
Funding made available to processors to remove contaminants from FOGO feedstock and/or increase testing of products	✓	✓		✓			✓
State wide approach to managing stockpiling (e.g. regional facility, or subsidise prices for agricultural market to move large volumes quickly)		✓		✓			
Develop policy/legislation for sustainable procurement by all levels of government of recycled materials (incorporating FOGO products) with measurable targets	✓	✓		✓			
Develop policies that support achieving the WA Waste Strategy 2030 targets for processing of FOGO into saleable products	✓	✓		✓			
Develop guidance on how to successfully apply FOGO derived products within target markets	✓	✓		✓			
Regulate (restrict) use of synthetic fertilisers / persistent		✓	✓	✓			

	Government (National/State)	Regional Local Govt/ Local Govt	Peak Body - Organics Recycling	Organics Processor	Agriculture	Mine Rehabilitation	Road Devt (Major Projects)
herbicides in sensitive catchments							
Regulate (restrict) sale and use of persistent herbicides and pesticides in household gardens that could contaminate FOGO derived products		✓		✓			
Raising the landfill levy such that it provides a disincentive for landfilling of recyclable organic material (e.g. FOGO)		✓		✓			
Create a policy that introduces set targets for processing of FOGO products							
Establishing standard/certificates, policy and funding support for advanced processing technologies such as anaerobic digestion to produce renewable fuel/energy and soil amendment products		✓		✓			
Establishing standards/certificates, policy and funding support for implementing advanced processing technologies such as in vessel composting		✓		✓			
Farmer "field days" to share results from trials and educate farmers of benefits, application rates, cost etc.					✓		

## 7. Stakeholder interviews

Following completion of the online survey (Appendix B), 25 follow-up interviews were undertaken, with 29 individuals consulted from a range of organisations in WA, and across Australia. The purpose of the interviews was to clarify comments and data shared through the online survey, and to seek input from selected stakeholders on recommendations for potential strategies and actions which could be implemented by the Waste Authority. Table 16 provides a list of individuals interviewed, with the key learnings summarised in Table 17.

Table 16 List of interviewees

	NAME	ORGANIZATION	LOCATION	SUB-MARKET
1	Callum Murison	DAWE	National	Government (National)
2	Sarah Lenarduzzi	DAWE	National	Government (National)
3	Amanda Kane	NSW EPA	NSW	Government (State)
4	Ian Mitchell	DMIRS	WA	Government (State)
5	Patrick Page	DPIRD	WA	Government (State)

	NAME	ORGANIZATION	LOCATION	SUB-MARKET
6	Emilie Stenmark	Main Roads WA	WA	Government (State)
7	Rebecca Brown	WALGA	WA	Government (State)
8	Josh Byrne	Waste Authority	WA	Government (State)
9	Steve Milton	Olives WA	WA	Intensive Agriculture (orchard)
10	Paul Molony	City of Melville	WA	Local Government (WA)
11	Lyall Davieson Claire Braithwaite	City of Cockburn	WA	Local Government (WA)
12	Gerry Gillespie	City to Soil	National	Organics Processor
13	Jan Dubbelde	Remondis	National	Organics Processor
14	Donovan Farrell Joe Colaci	GO Organics	WA	Organics Processor
15	Jason Chittleborough	Nutrarich	WA	Organics Processor
16	Eugene Olman Daniel van Veen Greg Carey	SUEZ	WA	Organics Processor
17	Peter Olah Peter Wadewitz	AORA (National) AORA (National) & Peats Soils (SA)	National	Peak Body (Organics Recycling)
18	Jessica Wundke	Green Industries SA	National	Peak Body (Organics Recycling)
19	Dave Cullen	AORA (WA)	WA	Peak Body (Organics Recycling)
20	Andonis Missikos	Sustainability Waste Alliance	WA	Peak Body (Regional Waste)
21	Murray Cook	BHRC – Bunbury Harvey Regional Council	National	Regional Local Government   Organics Processor
22	Marcus Geisler	EMRC – Eastern Metropolitan Regional Council	WA	Regional Local Government   Organics Processor
23	Brendan Doherty	SMRC – Southern Metropolitan Regional Council	WA	Regional Local Government   Organics Processor
24	Johannes Biala	The University of Queensland	National	University
25	Paul Curtis	Purearth	WA	Organics Processor

Table 17 Key learnings from interviews

Stakeholder Group	Is there a market for FOGO? Key drivers?	Key barrier(s)	Key solution(s)	Non-negotiables	Any further thoughts/suggestions
Government (National)   Environment and Agriculture	Perception is that it will cost Councils too much money to introduce appropriate education and contamination monitoring	Perception of cost (short term)	Reduce contamination of feedstock Education (may require a nation-wide approach or funding for LGs to run campaigns)	DAWE will facilitate roll out of FOGO for all jurisdictions	Current standards and regulations are being reviewed to identify potential improvements (work of Johannes Biala).
Government (State)   Environmental Regulation	Yes – pressure on farmers to produce carbon neutral produce to maintain market access. FOGO-derived products could form part of the solution, delivering carbon back to the soils (closing the loop). Soils need this nutrition	Not enough specifications for processors to produce end products that is suitable for the end markets needs/wants	Market appropriate certification (to guarantee quality) Funding for decontamination equipment Stricter targets for contamination in feedstock (should be 2% not 10%) – even if this requires a rate increase	It is possible to collect FOGO with low contamination	NSW EPA introduced a key initiative: \$500 k funding for decontamination equipment. Existing processors who received grants reported which new products they would be able to produce, and which new markets they could tap into.
Government (State)   Mine Rehabilitation	Yes – potential for ~75-100% of current mulch to be replaced with FOGO-derived compost if benefits (erosion control, increased seedling survival, cost savings) can be demonstrated Potential to use large quantities, SW mine sites are in suitable proximity of Perth & Peel Industry shift towards circular economy and growing desire to act responsibly driven by investors.	Contamination and product quality management Introduction of weeds/pathogens	Market appropriate certification (to guarantee quality) R&D trials to demonstrate (and educate) market of benefits	Contaminants (specifically residual chemicals, heavy metals, pathogens) Consistent product quality	Low cost would be necessary at start up (assuming market pays for transport). Include the end-user in the product development journey. Contamination tolerance will vary between tenure types (freehold less tolerant, pastoral leases and vacant crown land possibly more tolerant).
Government (State)   Agriculture	Yes – most promising sub-market is <b>broad-acre</b> . Potential to use large quantities, is in proximity of Perth & Peel, and has better tolerance for some contaminants than other Agricultural sub-markets	Contamination and product quality management	Market appropriate certification (to guarantee quality) Pelletised product (or liquid product) would enable application during seeding (reducing effort and cost) and deliver long lasting benefits (through	Contaminants (specifically glass, residue chemicals, heavy metals) Consistent product quality	Tree crop farmers understand benefits (weed/pathogen control and soil water retention) but may have access to cheaper alternatives (mulch from LGs). More tolerant to plastics/glass, but reasonably sensitive to chemical contaminants/heavy metals (food produce tested for local use and

Stakeholder Group	Is there a market for FOGO? Key drivers?	Key barrier(s)	Key solution(s)	Non-negotiables	Any further thoughts/suggestions
	<p>Potential for ~50% uptake if affordable (relative to benefits delivered) and quality consistent</p> <p>Current interest in regenerative farming (carbon neutral grain to secure market access, meet possible future regulatory requirements)</p> <p>Progressive mindset (interested in technologies/practices that can improve their bottom line)</p>		<p>incorporation into the soil profile).</p> <p><u>R&amp;D trials</u> (or field days to share learnings from current scientific literature) on benefits of organics in preserving water in the soil profile in a drying climate.</p>		<p>export). Transport cost may be prohibitive, most are located south of Bunbury (200+ km).</p> <p>Avocado growers have suitable profit margins to afford FOGO-derived compost if product is consistent and clean.</p> <p>Horticulture is more fragile market (with respect to contamination), more challenging to access (~5-10% uptake), would use less product.</p>
Government (State)   Infrastructure	<p>Yes – Main Roads mostly uses in-situ mulch from chipped trees, but imported materials are required when for example soils are contaminated with dieback. FOGO-derived products could be used if suitable</p>	<p>Contamination (asbestos)</p> <p>Containing weeds / dieback</p>	<p>State policy development - mandate targets for State Government Departments to source minimum recycled content</p>	<p>Dieback</p> <p>Asbestos</p>	<p>Chemical / hydrocarbon / heavy metal contamination less of a constraint – normal to get contaminated runoff from roads which is managed</p> <p>To use FOGO-derived products would require Main Roads updating their 'Specification for Landscaping (304)' and 'Contractor Requirements' as contractors are ultimately responsible for asset maintenance which includes rehabilitation activities</p> <p>Change within the organisation is likely to be driven by the 'delivery sector' responsible for detailed design and construction</p>
Peak Body   (Local Government)	<p>Waste Derived Material Determinations will define specifications that need to be met for products</p>	<p>Council parks and gardens and Council waste teams have not worked well together historically</p> <p>Does not seem to be a strong sense of shared responsibility across all local governments of their role in closing the loop on municipal organics</p>	<p>Greater engagement in councils – have changed the perspective of householders needing to change behaviour</p>		<p>Historically, Regional Councils would have invested in reprocessing infrastructure</p> <p>In the past Councils have been able to pass off risk to the contractor/private sector</p> <p>Need to understand the concerns of Council parks and gardens teams; are they happy to use FOGO-derived products? If not, why not? What are they using now? What would it take for them to take FOGO-derived products?</p>

Stakeholder Group	Is there a market for FOGO? Key drivers?	Key barrier(s)	Key solution(s)	Non-negotiables	Any further thoughts/suggestions
Government (State)   Environmental Policy	Urban amenity will be a key focus given organics should ideally be recycled back into their local waste catchments, but need to get FOGO organics collection and processing right Councils should use FOGO-derived products in local parks and council-maintained gardens	Contamination management	Lifecycle and chain of custody of materials needs to be factored into supply chain for FOGO recycling Successful FOGO recycling should not be waste driven but instead market tailored, with costs appropriately recovered throughout the supply chain	Quality of product is fundamental to successful market development	Closing the loop on organics is also about nutrient recycling Want to make sure there is quality assurance of FOGO-derived product Would like to see traceability and transparency of FOGO in organic soil conditioners Penrith Council in Sydney introduced FOGO 10 years ago; their experience in developing markets for FOGO derived products could provide valuable insights for WA
Market   Agriculture	Yes - industry is transitioning towards organic certification. Most are keen to replace synthetic fertilizers with organics as the organics also suppress weeds and provide protection against pathogens	Contamination and product quality management Cost (limited profit margin in this market)	Market appropriate certification (to guarantee quality) Implement strategies to reduce contamination of feedstock Identify and invest in advanced / market appropriate decontamination technologies Undertake stricter testing of final product	Contaminants (specifically, residue chemicals, heavy metals) Consistent product quality	Low cost would be necessary at start up (assuming market pays for transport). Limit the number of approved FOGO processing facilities to enable consolidation of funding to support processors with investment in decontamination technologies/processes to produce a consistent high-quality product. Could supply large volumes of GO (leaf/wood – 1/3 of tree trimmed annually) to processors but would not pay for this (unless guaranteed low-to-no cost buy back)
Government (Local)	Yes, it costs less to introduce FOGO service than leaving it as is Focus on the Circular loop where residents can use compost in their own back yard	Perception of product contamination and quality	Monitor contamination with cameras (e.g., in the hopper) Warn residents of incorrect bin use (e.g., warning stickers) Education with a focus on success stories Educate the entire supply chain (residents, drivers, processors, end market)	Contamination monitoring and customer service Education	LGs to adopt long term vision Bin stickers can be used as warning (third time bin does not get emptied) Follow up with all residents that are known to be contaminating. Speak to them on the street, be visible Market strategy will be important for enabling the Parks and Gardens to use FOGO derived products

Stakeholder Group	Is there a market for FOGO? Key drivers?	Key barrier(s)	Key solution(s)	Non-negotiables	Any further thoughts/suggestions
			FOGO Market Development Strategy to include clear targets/directives if being used as an instrument for driving change at LG level		Trial to indicate success stories is important to encourage product uptake
Government (Local)	Cost of implementing a FOGO service is too high when appropriate contamination monitoring and education is applied, almost every load needs to be checked to ensure that there is no glass contamination	Contamination and product quality management Cost	Reduce contamination of feedstock Educate the entire supply chain (residents, truck/excavator drivers, pickers etc.) Waste levy should support building of waste infrastructure (review % allocation of revenue) Establish clear targets for reuse/recycling that can be measured Use incentives to make people segregate their food waste better	Focus on closing the loop Glass contamination	“It is not just about providing the service; it’s about doing it right with low contamination to ensure that you close the loop”. Avoid mandating FOGO Avoid flooding market with low quality end products Considering the switch (feasibility study for 2023)
Organics Processor	Can see value in FOGO-derived products for improving southwest WA’s nutrient depleted soils		Reduce contamination of feedstock	Stop looking at problems and work on implementing the solutions	LGs need to focus on the solutions (learn from those that have done it before – look abroad)
Organics Processor   International (Germany)	Yes, but feedstock must be less contaminated for the processors to be able to produce affordable products. Without contamination, it is really easy to make good compost.	Not enough direction and information around standards (AD digestate standards for applying back to soil is missing)	Obligation of additional payments, in case of higher contamination (sometimes it is part of the bilateral contract, but not mandatory)  Education, Education, Education	Contamination levels cannot be allowed to be at 10%	Germany has more standards and directives to ensure quality Reduced contamination in feedstock is key to producing affordable end products Develop standards appropriate to market appetite for quality and risk tolerance Implementation of a definition of FOGO waste which includes a maximum contamination level (by law); in my opinion maximum 3% better 1%

Stakeholder Group	Is there a market for FOGO? Key drivers?	Key barrier(s)	Key solution(s)	Non-negotiables	Any further thoughts/suggestions
					Possibility to charge householders/customer for decontamination direct, if there is contamination in their bin (part of local law)
Organics Processor	<p>Recently completed a FOGO processing trial. Still working towards product development and markets.</p> <p>Expecting to focus mainly on a combination of urban amenity and agriculture.</p> <p>Need to educate residents on importance of keeping FOGO stream clean.</p>	<p>Contamination management. Product is not going to be contaminant free. Some plastics contamination likely to be present in product. Glass contamination is an ongoing risk and needs to be considered in market selection.</p> <p>Risk of FOGO-derived products becoming stigmatised as contaminated if not well processed and managed.</p>	<p>Don't see a need to change standards specifically for FOGO (e.g., AS4454), however AS3743 may not suit FOGO-derived products (pH range).</p>	<p>FOGO-derived products cannot be sold into markets without blending with other materials to enhance product. Contamination in feedstock can be significant and varies at different times of the year.</p> <p>Processors should do their own work around characterising product/s due to commercial sensitivity and competitive considerations.</p>	<p>Would like to see DWER guideline implemented but have reservations around what is in it.</p> <p>Frequency of testing may be onerous and expensive (DWER draft guideline stipulates testing every batch and testing takes ~3 weeks).</p> <p>Mass limits on physical contaminants are not enough to define product quality.</p> <p>Not enough is known about sources and extent of chemical contamination, sources of these and suitable mitigations. Suggest research funded by DWER to address this knowledge gap.</p> <p>Funding support for specialised equipment (e.g., grants) to manage contamination in product.</p>
Organics Processor	<p>No concerns about ability for FOGO waste to be processed into a product that can be sold</p> <p>Concerns exist around glass and plastic contamination in product</p> <p>Likely broadacre farmers interested will be mainly cereal growers, maybe pasture, subject to contaminant profile and quality management</p>	<p>Feedstock contamination and product quality management</p> <p>Variability in contamination levels</p> <p>Infrastructure needs to be appropriate, and costs need to be fully recoverable</p> <p>Competing with low-cost organics from other sources including biosolids, chicken</p>	<p>Successful FOGO recycling should not be waste driven but instead market tailored, with costs recovered risks appropriately shared throughout the supply chain</p> <p>Understanding why farmers will not buy an agronomic input:</p> <p>Not convinced a product will give them value for money</p>	<p>Regulatory policy uncertainty is a concern for industry and retards investment</p>	<p>AS4454 is a voluntary standard and was not intended to be an instrument for government to restrict or regulate an operation</p> <p>For Biosolids, WA has Biosolids land application guidelines, which are a good example of a managed approach, but for FOGO, there are currently no established guidelines</p> <p>DWER Guideline will provide more clarity; need to get definitions in place for the Guideline</p> <p>To support market development, DWER could consider subsidising freight, contamination removal, contaminant characterisation</p>

Stakeholder Group	Is there a market for FOGO? Key drivers?	Key barrier(s)	Key solution(s)	Non-negotiables	Any further thoughts/suggestions
		<p>manure (\$25/ m<sup>3</sup> delivered)</p> <p>Contaminated Sites Act for agriculture</p>	<p>Not enough known about performance of a product (data)</p> <p>Economically unable to take the risk of changing practices (banks, agronomists will not support them)</p> <p>Cost of getting product and applying it within their regime</p>		<p>(chemical), spreading equipment, identifying supply chain weaknesses and supporting initial uptake of FOGO-derived products</p>
Organics Processor	<p>Needs to be developed</p> <p>Gate fee should include full cost of processing, to a defined standard</p> <p>Suez sell wholesale to offtakers, not retailers (direct)</p> <p>Agriculture will play a big part in market for FOGO-derived products</p> <p>Avoid markets that are unsuitable for FOGO-derived products (e.g. lawn topdressing due to physical contaminants)</p> <p>Suez recycled organics products have Watermark approval</p>	<p>Feedstock contamination and product quality management</p> <p>Standards vs market expectations.</p> <p>Quality out is limited by quality in.</p> <p>Uncertainty around proposed DWER Waste Derived Material Determinations (incl timeframes)</p> <p>Have observed a disconnect between council parks and gardens departments and their own waste departments</p>	<p>Appropriate processing technology incl pre-sort</p> <p>Fine screening of final product (don't produce mulch).</p> <p>Limit inputs/ feedstocks to make product of appropriate quality.</p> <p>Characterise performance of FOGO-derived products to enable reliable comparison with fertilisers and other established soil amendments.</p> <p>Need to control feedstocks, contamination, process and product quality</p> <p>Councils should commit to buying back a percentage of FOGO-derived products (circularity/ sustainable procurement)</p> <p>Council parks and gardens departments could/should have recycled content targets in materials procured for their projects.</p>	<p>Need to meet market requirements and expectations for physical contaminants (glass and plastics).</p> <p>GO processors should be required to process to a minimum standard, not just shred and give away unpasteurised mulch for level playing field</p>	<p>Not currently processing FOGO; only GO and commercial FO. North Bannister facility is approved for FOGO processing.</p> <p>Need to consider underlying objectives – is key driver waste diversion from landfill or recycling organics?</p> <p>Victorian chemical contamination issue has caused reputational harm and is an industry issue</p> <p>Standard does not require testing for certain contaminants; DWER could arrange testing for persistent pesticides and herbicides</p> <p>Would like to see DWER Guideline implemented</p> <p>Field trials of product need to be done at an industry level (DWER supported/funded).</p> <p>DWER could fund better understanding of performance benefits of FOGO-derived products, and possibly also offset transport costs, to understand where the products can provide the most benefit and aid development of higher value markets</p>

Stakeholder Group	Is there a market for FOGO? Key drivers?	Key barrier(s)	Key solution(s)	Non-negotiables	Any further thoughts/suggestions
Peak Body (Organics Recycling)	<p>Current markets for recycled organics are 80% urban amenity and 20% agriculture</p> <p>Growth potential in roads and transport infrastructure projects</p> <p>Two inter-related challenges are market development and product development</p> <p>Urban amenity is the biggest single market, especially local government</p> <p>FOGO has more Nitrogen and Phosphorus than GO; GO-based products often a bit low in Nitrogen</p>	<p>90-minute travel horizon for product to market is a key limiting factor for market reach</p> <p>Contamination challenge is mainly physical in FOGO (plastics, glass) and chemical in GO-derived products</p>	<p>Developing value-added products can help improve extending market reach</p> <p>Demand for certified products has been stronger than for uncertified products from very early on</p> <p>Burden of behaviour change has fallen on councils; consistent messaging and methods are important</p> <p>Procurement specifications should require Australian Standards compliance</p> <p>Organics processors need to push some of the risk further back in the supply chain (i.e., to Councils)</p>	<p>Historically, GO processing has been via short rotation contracts. Longer duration contracts (at least 10-15 years) are needed to support investment in FOGO processing infrastructure; a modern in-vessel composting facility can cost \$20 to \$40 million</p>	<p>SA began road mapping growth in organics recycling and the progression to FOGO 15 years ago</p> <p>Identified most markets are within around 80 km of production location</p> <p>Risk profile for FOGO vs GO composts is different</p> <p>Development of increase in recycling rate in NSW is mainly FOGO (&gt;10% increase)</p> <p>AORA fully supports the WA FOGO targets</p> <p>Need to replicate end to end product stewardship</p> <p>R&amp;D: Development of an industry led product certification system</p>
Peak Body (Organics Recycling)	<p>The SA market has more demand for FOGO products than they can produce</p> <p>Markets have been developed for 10 years</p> <p>Trials an important initiator to overcome perception</p>	<p>Costs for Councils to initiate the service</p> <p>Cost for processors to remove contamination is high</p> <p>In SA fortnightly collections is sometimes considered a problem</p>	<p>Develop policy and regulation in consultation with composting sector</p> <p>Funding for decontamination equipment</p> <p>Segregated organics collection systems</p> <p>Develop educational materials with consistent messaging</p>	<p>Work closely with processing industry to ensure they are given what they need to produce affordable end products</p>	<p>Market development and trails were also hugely beneficial early on</p> <p>GISA has developed marketing material and FOGO guidelines for all Councils to follow in SA when implementing the service</p>
Peak Body (Organics Recycling)	<p>80% of current market for urban-generated recycled organics products is urban amenity</p> <p>Processors will be responsible for finding a market for their products, regardless of the inputs</p>	<p>FO introduces physical contaminants (mainly plastics and glass); adding FO makes processing more expensive than GO (and commercial FO) only</p> <p>FOGO requires more expensive processing infrastructure</p>	<p>Community engagement – communicating what we want to do and why</p> <p>Will likely need to blend FOGO-derived products with other products for market acceptance</p> <p>Educate the public but need to be careful with</p>	<p>Influencing and reinforcing behaviour change – with consistency of messaging across the state to reinforce source separation</p>	<p>Although the bulk of FOGO-derived product will be generated from waste collected in the Perth and Peel region, it is unrealistic to expect all of the product to go back into the metro market (there are seasonal influences to be considered as well)</p> <p>Marketing is key to meeting customer expectations</p>

Stakeholder Group	Is there a market for FOGO? Key drivers?	Key barrier(s)	Key solution(s)	Non-negotiables	Any further thoughts/suggestions
			messaging – consistency is key		
Peak Body (Organics Recycling)	Urban amenity Agriculture Infrastructure (incl road construction) projects	Existing procurement policies do not specify minimum recycled content for organics	Define specification to align with market segments and end user needs	Need risk/reward framework to effect and realise change	Establish a pilot project to demonstrate and quantify the benefits of FOGO-derived products Compost spreading and field trials with transferrable learnings to benefit wider adoption of FOGO-derived products – funded by Government
Regional Local Government   Organics Processor	Needs to be developed (currently BHRC has sold 10% of FOGO-derived compost produced, with 90% stockpiled at Banksia Road). Certified product is currently sold into the agricultural market (region is mostly livestock for dairy and meet production).	Contamination (most common including biodegradable plastic bags, nappies and glass). LG waste recovery contracts without a “buy back” clause. Mindset – getting people to recognise waste as a valuable resource.	Market appropriate certification (to guarantee quality) Education on correct bin use and value of recycling organics (support and educate councils and public). LG to offer the public ‘tip passes’ which give contributors an incentive to recycle “clean” FOGO. Ensure LG waste recovery contracts include “buy back” clause. Introduce third bin at no charge (or reduce equivalent cost of other bins). Ban/levy for disposal of organic waste to landfill in regional areas (currently only Perth metro waste is levied).	Contaminants (specifically glass)	Low cost would be necessary at start up (assuming market pays for transport). Allow public to pick up compost for a small fee or for free if they have tip passes. Ensure FOGO is collected every week (avoid odour issues). Ensure FOGO bin liners are compostable (not biodegradable). Ensure there is a platform for Regional Local Government / Local Government / Processors to share learnings. Regulatory shortfall? Separation of commercial organic waste from general waste is mostly optional for businesses. Without source point separation, the recycling of these materials is not possible. Suggest adjustments to LG regulations to recycle more GO.
Regional Local Government   Organics Processor	Needs to be developed Markets should be selected as appropriate for FOGO product	Contamination and product quality management Not enough Councils are interested in paying	Market appropriate certification (to guarantee quality)	Standards need to be defined and met	Education should be viewed as an investment (not a cost). Objective testing to ensure quality of end product

Stakeholder Group	Is there a market for FOGO? Key drivers?	Key barrier(s)	Key solution(s)	Non-negotiables	Any further thoughts/suggestions
	<p>Can see value in FOGO-derived products for improving southwest WA's nutrient depleted soils</p> <p>Urban amenity should be key focus – returning recycled product to source</p> <p>Gate fee should include full cost of processing, to a defined standard</p> <p>Need to manage contamination to the lowest level practicable – there is no problem selling a product with no contamination</p>	<p>for contamination monitoring and education to reduce contamination</p> <p>Current industry talking down FOGO and fear disruption of their existing markets</p> <p>Managing chemical contamination is a key challenge</p>	<p>Appropriate processing technology incl pre-sort</p> <p>Allow opt-out/opt-in in areas where contamination is unacceptably high in FOGO waste collected</p> <p>Education should be standardised across Australia (controlled by a central body)</p> <p>Gate fee charged (for processing) should reflect physical contamination level, higher gate fee for higher contamination</p> <p>Councils should commit to buying back a percentage of FOGO-derived products (circularity/ sustainable procurement)</p> <p>Councils should have recycled content targets in materials procured for their projects</p>	<p>Do bin audits of contamination – regularly</p> <p>Exclude or ban herbicides and pesticides that are persistent and don't break down during composting (e.g., clopyralid)</p> <p>Education should be the responsibility of Councils and not outsourced to processors/ contractors – and education should be properly funded and delivered consistently</p>	<p>Use existing standards but draw distinction between products suitable for restricted and unrestricted use</p> <p>Would like to see DWER <i>Guideline: Better Practice Composting</i> implemented</p> <p>May need to consider a different standard for FOGO derived products. Consider whether a minimum level of stability/maturity should be specified to be achieved</p> <p>Allow opt-out in areas or for residents where contamination is unacceptably high in FOGO waste collected (i.e., just provide a yellow lid and red lid bin for the 5% that don't, won't or can't do the right thing), and allow opt-in for return to FOGO service</p> <p>DWER should consider subsidising market development</p> <p>DWER should consider subsidising consistency of messaging (to householders)</p> <p>Large projects could procure sufficient FOGO-derived products if all producers manufactured to a spec and work cooperatively to match supply with project needs (if larger than a single producer's production capacity)</p>
Regional Local Government	<p>Councils not willing to invest in contamination monitoring and education that is appropriate to reduce contamination levels</p>	<p>Buy-back by Parks and Gardens</p>	<p>Reduce contamination of feedstock</p> <p>LGs to monitor contamination source – exclude those residents who contaminate from participating (might represent 5%)</p>	<p>Education</p> <p>Contamination monitoring</p>	<p>"If it is free from contamination, you don't have a marketing problem"</p> <p>Contamination monitoring can include:</p> <ul style="list-style-type: none"> <li>- Bin tagging schedule</li> <li>- Consultation with drivers to identify offending areas</li> <li>- Detailed composition audits on all three bins</li> </ul>

Stakeholder Group	Is there a market for FOGO? Key drivers?	Key barrier(s)	Key solution(s)	Non-negotiables	Any further thoughts/suggestions
			DWER to set targets for sustainable procurement, buy-back, contamination % Funding to LGs to identify their compost needs (to create a pull for these resources within the organisation)		- Photographs of the load and different areas (trucks from different areas can have very different type of contamination levels) - Audits from processing sites.
University	Yes, Australian soil needs the compost and urban market is already a market segment that is working for FOGO derived products Councils talks about the importance of education, but it is usually the first item to be cut from the list when cost are reduced	Voluntary nature of Australian Standards The end products (compost) cost too much to make it financially viable for the agriculture industry to use	Audit process for Australian Standard certification Streamline and simplify regulations (reduce cost, build market trust)	Must create standards that also consider the input (ie the feedstock), Create a value chain that is profitable for all stakeholders	Current standards and regulations are being reviewed to provide advice to DAWE on potential improvements. Currently developing a nutrition calculator to demonstrate value to farmers.
Processor	Yes – Already selling landscaping soil blends in metro into urban amenity with 30% and 40% FOGO-derived compost content (blended with sand and boutique compost from other feedstocks).	Contamination management.	Effective presort and screening by client (regional local government) before transport to their composting site. Working with client to manage risks. Segregation of FOGO composting process from processing with cleaner inputs; screening, air classification and blending with other materials to manufacture a consistent quality product tested to AS4454.	Work closely with client to ensure they are supplying a feedstock with minimal contamination so affordable end products can be produced. Need established market linkages and customer base.	If someone is going to process FOGO, they need to have markets. If not, they need to consider what they are going to do about selling the product Local Govt processors could consider partnering with businesses that already have established market presence, customer base and linkages Don't erode existing markets – need to grow the market to accommodate FOGO composts, not displace other materials in the market

## 8. Online survey questions

### 8.1 All stakeholders

Question no.	Question
1	Full name
2	Position title (including department section if applicable)
3	What company, government body or organisation do you represent?
4	<p>Which State or Territory in Australia are you located in?</p> <ul style="list-style-type: none"> <li>• Western Australia</li> <li>• South Australia</li> <li>• Victoria</li> <li>• New South Wales</li> <li>• Australian Capital Territory</li> <li>• Queensland</li> <li>• Northern Territory</li> <li>• Tasmania</li> <li>• None of the above</li> </ul>
5	<p>How important are each of the following standards, certification, or guidance for encouraging uptake of FOGO derived products? (1 being most important and 9 being least important)</p> <ul style="list-style-type: none"> <li>• Australian Standard AS 4454 Composts, soil conditioners and mulches</li> <li>• AS 3743 Potting Mixes</li> <li>• AS 4419 Soils for landscaping and garden use</li> <li>• AS 6000 Australian Standard for Organic and biodynamic products</li> <li>• Fresh Care Food Safety and Quality Program</li> <li>• DWER Guideline: Better Practice Composting</li> <li>• DPIRD general guidance for use of composts in Agriculture and Food production</li> <li>• EcoHort EMS Certification</li> <li>• Other</li> </ul>
6	<p>Select the sector most relevant to you:</p> <ul style="list-style-type: none"> <li>• Government (National/State)</li> <li>• Regional Local Government/Local Government</li> <li>• Peak Body (Organics Recycling)</li> <li>• Organics Processor</li> <li>• Agriculture</li> <li>• Property Development</li> <li>• Road/Rail Development</li> </ul>

	<ul style="list-style-type: none"> <li>• Mine Rehabilitation</li> <li>• Remediation Specialist</li> </ul>
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## 8.2 Government (National/State), Peak Bodies (organics recycling sector)

Question no.	Question
7	<p>What do you see as the main barriers for uptake of FOGO derived products? (1 being most important and 9 being least important)</p> <ul style="list-style-type: none"> <li>• Lack of demonstrated benefits (including cost benefits) in relevant field trials</li> <li>• FOGO derived product is expected to be more expensive than similar products</li> <li>• Cost to transport is expected to be too high</li> <li>• Inconsistent product quality</li> <li>• The cost of incorporating or applying FOGO derived products</li> <li>• Lack of knowledge about benefits of using FOGO derived products</li> <li>• Local governments unable to control feedstock contamination, preventing composters from producing consistently high-quality product</li> <li>• Unclear market strategy/policy targets on preferred uptake from State Government</li> <li>• Concern over aesthetics because of physical contamination</li> <li>• Concern over damage to plants or crops from chemical contaminants</li> </ul>
8	<p>Which, if any, of the following strategies do you recommend DWER consider implementing?</p> <ul style="list-style-type: none"> <li>• Ensure all FOGO derived products are quality assured to AS4454</li> <li>• Tailored specifications/standards/certifications for FOGO products designed to meet the needs of specific end markets</li> <li>• Introduce a new certification standard that applies to the whole supply chain (from feedstock to end-product)</li> <li>• Introduce short-term subsidies/discounts to purchasers to incentivise uptake of FOGO derived products</li> <li>• Fund trials to demonstrate benefits (including cost benefits)</li> <li>• Fund education campaigns to share demonstrated benefits</li> <li>• Support local government investment in education and intervention to reduce contamination in their collected FOGO feedstock</li> <li>• Funding made available to processors to remove contaminants from FOGO feedstock and/or increase testing of products</li> <li>• Develop policy/legislation for sustainable procurement by all levels of government of recycled materials (incorporating FOGO products) with measurable targets</li> <li>• Develop policies that support achieving the WA Waste Strategy 2030 targets for processing of FOGO into saleable products</li> <li>• Develop guidance on how to successfully apply FOGO derived products within target markets</li> <li>• Regulate (restrict) use of synthetic fertilisers / persistent herbicides in sensitive catchments</li> <li>• Regulate (restrict) sale and use of persistent herbicides and pesticides in household gardens that could contaminate FOGO derived products</li> <li>• Raising the landfill levy such that it provides a disincentive for landfilling of recyclable organic material (e.g., FOGO)</li> <li>• Establishing standard/certificates, policy and funding support for advanced processing technologies such as anaerobic digestion to produce renewable fuel/energy and soil amendment products</li> <li>• Establishing standards/certificates, policy and funding support for implementing advanced processing technologies such as in vessel composting</li> </ul>

	<ul style="list-style-type: none"> <li>• Other (please specify)</li> </ul>
9	<p>Which of the following standards/certification/guidance are most important for encouraging uptake of FOGO derived products?</p> <ul style="list-style-type: none"> <li>• Australian Standard AS 4454 Composts, soil conditioners and mulches</li> <li>• AS 3743 Potting Mixes</li> <li>• AS 4419 Soils for landscaping and garden use</li> <li>• AS 6000 Australian Standard for Organic and biodynamic products</li> <li>• Fresh Care Food Safety and Quality Program</li> <li>• DWER Guideline: Better Practice Composting</li> <li>• DPIRD general guidance for use of composts in Agriculture and Food production</li> <li>• EcoHort EMS Certification</li> <li>• Other / Requires a new standard. Please specify</li> </ul>
10	<p>Does your organisation actively exercise sustainable procurement or prioritise the purchase of recycled materials?</p> <ul style="list-style-type: none"> <li>• Yes, we have internal targets (e.g., tonnes, %)</li> <li>• Yes, we have a framework to exercise sustainable procurement, but there are no internal targets to measure progress</li> <li>• No</li> </ul>
11	<p>Do you have any relevant data or reports from field trials that you can share with us?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
12	Please upload and relevant data or reports that you willing to share
13	Please share any lessons learned or recommendations for FOGO product market development in WA

### 8.3 Regional Local Government, Local Government (councils)

Question no.	Question
14	<p>Does your Local Government collect FOGO?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No, but plan to introduce</li> <li>• No, and we have no plans to implement FOGO</li> <li>• Other (please specify)</li> </ul>
15	If your Local Government is already collecting FOGO, what year did you start?
16	If your Local Government has not yet started collecting FOGO, what year do you plan to introduce FOGO collections?
17	<p>If applicable, how many tonnes of FOGO is collected?</p> <ul style="list-style-type: none"> <li>• How many tonnes of FOGO do you currently collect per year?</li> <li>• How many tonnes of FOGO do you aim to collect per year by 2025?</li> <li>• How many tonnes of FOGO do you aim to collect per year by 2030?</li> </ul>
18	How many households are you providing waste collection services to?
19	<p>What is the current proportion of single unit dwellings (SUD's) to multi-unit dwellings (MUD's)?</p> <ul style="list-style-type: none"> <li>• % SUD's</li> <li>• % MUD's</li> </ul>
20	<p>what in your opinion do you believe has driven the introduction of FOGO collection services?</p> <ul style="list-style-type: none"> <li>• Legislative/policy requirement</li> </ul>

	<ul style="list-style-type: none"> <li>• Achieve WA Waste Strategy 2030 targets</li> <li>• Better Bins Plus: Go FOGO scheme (cost-efficient)</li> <li>• Increase recycling and diversion of waste from landfill</li> </ul>
21	<p>Do (or will) you share the management of contamination and product sales with your processor through:</p> <ul style="list-style-type: none"> <li>• Inclusion of a product 'buy back' clause in the contract?</li> <li>• Offer of free landfill disposal of contaminants?</li> <li>• Guaranteeing &lt;5% feedstock contamination?</li> <li>• Guaranteeing 5-10% feedstock contamination?</li> <li>• Other (please specify)</li> </ul>
22	<p>Which statement best describes your Local Government's commitment to using recycled organics such as FOGO compost?</p> <ul style="list-style-type: none"> <li>• We set internal targets for use of recycled organics (sustainable procurement) and have clearly defined actions to achieve these</li> <li>• We set internal targets for use of recycled organics (sustainable procurement); however, little action has been taken to achieve these</li> <li>• We are interested in using recycled organics, however we have not yet set clear targets and actions</li> <li>• Using recycled organics is not a priority for our Local Government</li> <li>• We are concerned about detrimental effects of contamination in FOGO derived products</li> </ul>
23	<p>Which of the following recycled organics products do you currently use?</p> <ul style="list-style-type: none"> <li>• AS4454 certified compost or soil conditioner</li> <li>• AS3743 certified potting mix/soil</li> <li>• AS4419 certified landscaping soil</li> <li>• Non-certified compost blend</li> <li>• Non-certified liquid/solid digestate</li> <li>• Other (please specify)</li> </ul>
24	<p>Would your Local Government be willing to introduce any of the following to support FOGO recycling?</p> <ul style="list-style-type: none"> <li>• Introduce a 'buy back' clause into contracts with processors</li> <li>• Offer low cost or free composted FOGO products to residents</li> <li>• Incorporate usage of recycled organics into your procurement system, including parks and gardens</li> <li>• Pursue interventions to reduce contamination of feedstock (e.g., education, financial incentives, penalties, alternative collection methods, withdrawal of service)</li> <li>• Monitor (or increase monitoring of) contamination in feedstocks</li> <li>• Additional sampling and analysis of FOGO products, in conjunction with processor (e.g., shared cost)</li> </ul>
25	<p>What would be primary drivers for your Local Government when purchasing FOGO derived compost?</p> <ul style="list-style-type: none"> <li>• Reducing quantity of synthetic fertilizers applied (or frequency of applications)</li> <li>• Improving soil structure/quality (including nutrient and water retention)</li> <li>• Improving soil biology</li> <li>• Improving plant survival (establishment, drought/disease/pest tolerance)</li> <li>• Reducing nutrient leaching/losses</li> <li>• Preventing soil erosion</li> <li>• Long term cost savings</li> <li>• Closing the loop on our organic waste and supporting circular economy</li> </ul>
26	<p>Which of the following product types are most likely to be used by your Local Government? (please indicate YES or NO and potential annual quantities, if known)</p> <ul style="list-style-type: none"> <li>• AS4454 certified compost or soil conditioner</li> <li>• AS3743 certified potting mix/soil</li> <li>• AS4419 certified landscaping soil</li> <li>• Non-certified compost blend</li> </ul>

	<ul style="list-style-type: none"> <li>• Non-certified liquid/solid digestate</li> <li>• Other</li> </ul>
27	<p>How much would your Local Government be prepared to pay (delivered cost per tonne) of quality FOGO-derived compost?</p> <ul style="list-style-type: none"> <li>• \$ 5 – 10 per tonne</li> <li>• \$ 10 – 20 per tonne</li> <li>• \$ 20 – 40 per tonne</li> <li>• \$40 - 60 per tonne</li> <li>• \$60 - 80 pe tonne</li> <li>• \$80 - 100 per tonne</li> <li>• Only interested in FOGO-derived compost if its free</li> </ul>
28	<p>What are the top five (5) key factors that underpin your decision to purchase a recycled organics product?</p> <ul style="list-style-type: none"> <li>• Purchase price</li> <li>• Local purchasing</li> <li>• Local supply/availability</li> <li>• Long-term cost savings</li> <li>• Lower establishment costs due to higher productivity or improved plant survival</li> <li>• Quality (assured through standards certification)</li> <li>• No plastic contamination</li> <li>• No glass contamination</li> <li>• No chemical contamination (e.g., PFAS / residual herbicides)</li> <li>• No heavy metals contamination</li> <li>• No weeds</li> <li>• No disease (e.g., pathogens such as dieback)</li> </ul>
29	<p>What do you see as the main barriers to using FOGO-derived products?</p> <ul style="list-style-type: none"> <li>• Limited supply</li> <li>• Inconsistent product quality</li> <li>• Contamination of product</li> <li>• Cost of product is too high</li> <li>• Cost of transport is too high</li> <li>• Cost of incorporating / applying to soils</li> <li>• Poor product differentiation (similar benefits claimed by other products available at similar cost)</li> <li>• No 'suitable' products</li> <li>• No incentives to change</li> <li>• No interest in changing</li> <li>• Lack of demonstrated benefits</li> <li>• Lack of demonstrated cost savings</li> <li>• Lack of education</li> <li>• Other (please specify)</li> </ul>
30	<p>What % of Local Governments in WA do you think will use FOGO derived compost over the next 5-10 years?</p> <ul style="list-style-type: none"> <li>• &lt;2%</li> <li>• 2 - 5%</li> <li>• 5 - 10%</li> <li>• 10 - 30%</li> <li>• 30 - 50%</li> </ul>

	<ul style="list-style-type: none"> <li>• &gt;50%</li> <li>• Not Applicable / cannot comment</li> </ul>
31	<p>Would you be interested in participating in a trial to evaluate cost benefits from using a FOGO derived product, and if so, what type of product?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
32	<p>What type of information would a trial need to provide in order for you to consider it beneficial?</p> <ul style="list-style-type: none"> <li>• Cost savings (short-term)</li> <li>• Cost savings (long-term)</li> <li>• Confirm low levels of contamination (reliable product quality)</li> <li>• Higher water use efficiency</li> <li>• Improved seedling/tree/park/garden planting establishment/survival</li> <li>• Improved park/garden, turf and/or street tree resilience (to drought/disease/pests)</li> <li>• Effective erosion control</li> <li>• Reduce surface water run off</li> <li>• Better soil conditions after multiple/repeat applications</li> <li>• Suitable method/guidance for application and appropriate application rates</li> <li>• Case studies of successful project implementation</li> <li>• Other (please specify)</li> </ul>
33	<p>Which of the following strategies do you think are required to overcome key barriers in Local Government?</p> <ul style="list-style-type: none"> <li>• More field trials in my market to demonstrate cost benefits</li> <li>• More field trials in my market to demonstrate other benefits</li> <li>• Targeted education campaigns to share demonstrated benefits</li> <li>• Ensure all FOGO derived products are quality assured to an appropriate Australian Standard (e.g., AS4454 for composts, soil conditioners and mulches)</li> <li>• Tailored specifications/standards/certifications for FOGO products designed to meet the needs of specific end markets</li> <li>• Introduce short-term subsidies/discounts to purchasers to incentivise uptake of FOGO derived products</li> </ul>
34	<p>Which of the following standards/certification/guidance are most important for your Local Government to ensure quality assurance of FOGO derived products?</p> <ul style="list-style-type: none"> <li>• Australian Standard AS 4454 Composts, soil conditioners and mulches</li> <li>• AS 3743 Potting Mixes</li> <li>• AS 4419 Soils for landscaping and garden use</li> <li>• AS 6000 Australian Standard for Organic and biodynamic products</li> <li>• Fresh Care Food Safety and Quality Program</li> <li>• DWER Better Compost guidance</li> <li>• DPIRD guidance for use of composts in Agriculture and Food production</li> <li>• EcoHort EMS Certification</li> <li>• Other (please specify)</li> </ul>
35	<p>What proportion of households serviced by a kerbside organics collection would be Single Unit Dwellings (SUD) vs Multiple Unit Dwellings (MUD)?</p> <ul style="list-style-type: none"> <li>• Single Unit Dwellings (SUD)</li> <li>• Multiple Unit Dwellings (MUD)</li> </ul>
36	How do/would you plan to manage the collection of FOGO from MUDs?
37	Would you propose to have separate collections of FO and GO from MUDs?
38	Please provide any suggestions to address key barriers to FOGO product uptake in Local Government:

## 8.4 Organics recyclers (processors)

Question no.	Question
39	How long have you been operating in municipal organics recycling?
40	How long have you been incorporating FOGO into your products? <ul style="list-style-type: none"> <li>• No current plans</li> <li>• Plan to start</li> <li>• Since [year]</li> </ul>
41	Which of the following standards / certification / guidelines inform your current manufacturing processes? <ul style="list-style-type: none"> <li>• Australian Standard AS 4454 Composts, soil conditioners and mulches</li> <li>• AS 3743 Potting Mixes</li> <li>• AS 4419 Soils for landscaping and garden use</li> <li>• AS 6000 Australian Standard for Organic and biodynamic products</li> <li>• Fresh Care Food Safety and Quality Program</li> <li>• DWER Guideline: Better Practice Composting</li> <li>• DPIRD general guidance for use of composts in Agriculture and Food production</li> <li>• EcoHort EMS Certification</li> <li>• Other / Requires a new standard (please specify)</li> </ul>
42	Please indicate whether you agree or disagree with the following statements regarding the use of AS4454 as a basis for defining acceptable quality in FOGO derived products: <ul style="list-style-type: none"> <li>• The minimum standard does not produce a high enough quality product</li> <li>• Processing and testing to this standard are cost prohibitive</li> <li>• Markets are not aware of what AS4454 certification means</li> <li>• Markets are not particularly interested in AS4454 certification</li> <li>• Specific clauses of AS4454 need to be specified in product specifications</li> </ul>
43	Do you think AS4454 should be revised or amended? <ul style="list-style-type: none"> <li>• Not able to comment</li> <li>• No</li> <li>• Yes</li> <li>• Other (please specify)</li> </ul>
44	Please explain why you think AS4454 should be revised or amended?
45	Please indicate the maximum estimated % of FOGO you include in your current products (if any): <ul style="list-style-type: none"> <li>• Soil conditioner (%)</li> <li>• Soil blend / potting mix (%)</li> <li>• Compost (%)</li> <li>• Mulch (%)</li> <li>• Pellet (%)</li> <li>• Other</li> </ul>
46	What is your target % of FOGO in key products that you produce? <ul style="list-style-type: none"> <li>• Soil conditioner (%)</li> <li>• Soil blend / potting mix (%)</li> <li>• Compost (%)</li> <li>• Mulch (%)</li> <li>• Pellet (%)</li> </ul>

	<ul style="list-style-type: none"> <li>• Other (% of _ product)</li> </ul>
47	<p>Over what timeframe do you hope to achieve these targets?</p> <ul style="list-style-type: none"> <li>• Within 3 years</li> <li>• Within 3 to 5 years</li> <li>• Within 5 to 10 years</li> </ul>
48	<p>How much FOGO waste do you plan to process annually by 2025?</p> <ul style="list-style-type: none"> <li>• Proposed FOGO input (tonnes per annum):</li> <li>• Proposed FOGO-derived product output (tonnes per annum):</li> <li>• Not applicable</li> </ul>
49	<p>Is the incorporation of FOGO into your products expected to impact production costs?</p>
50	<p>Would you consider integrating advanced processing technologies to produce high quality FOGO-derived products and/or renewable energy?</p> <ul style="list-style-type: none"> <li>• None of the above</li> <li>• Yes, Anaerobic Digestion (dry technology)</li> <li>• Yes, Anaerobic Digestion (wet technology)</li> <li>• Yes, Energy from waste (for biochar)</li> <li>• No because there are not enough legislative drivers</li> <li>• No because there is not enough funding available</li> <li>• Other (please specify)</li> </ul>
51	<p>Do you think customers will be willing to pay more, or less, for products incorporating FOGO waste? Please explain your response</p>
52	<p>List the estimated quantity produced in a year for each of your key products from all inputs:</p> <ul style="list-style-type: none"> <li>• Soil conditioner (tpa)</li> <li>• Soil blend / potting mix (tpa)</li> <li>• Compost (tpa)</li> <li>• Mulch (tpa)</li> <li>• Pellets (tpa)</li> <li>• Liquid/solid digestate (tpa)</li> <li>• Other category</li> </ul>
53	<p>Will processing FOGO result in a need to amend your gate fees (processing charges) for organics recycling?</p> <ul style="list-style-type: none"> <li>• An increase of price per tonne</li> <li>• No change expected</li> <li>• Depends whether Local Government commits to contamination limits in FOGO collected</li> <li>• Depends whether Local Government commits to buying back FOGO-derived products</li> <li>• Not applicable / not able to comment</li> </ul>
54	<p>Please rank in order (1 being most preferred and 6 least preferred) the type of feedstock you prefer to work with:</p> <ul style="list-style-type: none"> <li>• Ranking Food Organics (FO) only (commercial)</li> <li>• Garden Organics (GO) only (commercial)</li> <li>• Food Organics (FO) only (residential)</li> <li>• Garden Organics (GO) only (bulk verge collection, self-haul via transfer station)</li> <li>• Garden Organics (GO) only (residential kerbside fortnightly collection)</li> <li>• FOGO (residential kerbside weekly / fortnightly collection)</li> </ul>
55	<p>Please explain the reason for your feedstock preferences</p>

56	<p>Please rank the difficulty of removing or managing contaminants in feedstock from most difficult to least difficult:</p> <ul style="list-style-type: none"> <li>• Plastic (e.g., film plastics)</li> <li>• Glass</li> <li>• Chemical contaminants</li> <li>• Heavy metals</li> <li>• Pathogens</li> <li>• Other</li> </ul>
57	<p>What should Local Government consider in framing a FOGO contract to improve outcomes, including value for money?</p> <ul style="list-style-type: none"> <li>• Product 'buy back' clause in contracts</li> <li>• Longer term contracts</li> <li>• Lower levels of contaminants in feedstock</li> <li>• Shared contamination responsibility clause in contracts</li> <li>• Higher gate fee (processing charge) for FOGO feedstock</li> <li>• Other (please specify)</li> </ul>
58	<p>Please rank the markets into which you currently sell recycled organic products (1 being the largest market and 8 being smallest)</p> <ul style="list-style-type: none"> <li>• Local Government</li> <li>• Extensive Agriculture (broad-acre cereal/livestock and forestry)</li> <li>• Intensive Agriculture (turf production, vineyards, orchards, market gardens)</li> <li>• Property Development (Major Projects)</li> <li>• Road/Rail Development (Major Projects)</li> <li>• Mine rehabilitation projects</li> <li>• Remediation projects</li> <li>• Prefer not to say</li> </ul>
59	<p>Incorporating FOGO would require (tick all that apply):</p> <ul style="list-style-type: none"> <li>• Upgrade of plant/facilities</li> <li>• Amendment of existing environmental approvals</li> <li>• More labour</li> <li>• No change to existing process</li> <li>• Other (please specify)</li> </ul>
60	<p>Which method(s) would you implement for removing contaminants in FOGO without supplementary funding or grants?</p> <ul style="list-style-type: none"> <li>• Manual de-contamination (e.g., manual picking line in sort cabin)</li> <li>• Mechanical de-contamination equipment</li> <li>• Manual handpicking and floor picking (pile spread on floor/pad)</li> <li>• Post screening of product/s</li> <li>• Windsifting (plastics)</li> <li>• Densimetric / mechanical removal of stones, glass etc</li> <li>• Magnetic separation (ferrous metals)</li> <li>• Eddy current separation (non-ferrous metals)</li> </ul>

	<ul style="list-style-type: none"> <li>• Other (please specify)</li> </ul>
61	<p>Which method(s) would you implement for removing contaminants with access to supplementary funding or grants?</p> <ul style="list-style-type: none"> <li>• Manual de-contamination (e.g., manual picking line in sort cabin)</li> <li>• Mechanical de-contamination equipment</li> <li>• Manual handpicking and floor picking (pile spread on floor/pad)</li> <li>• Post screening of product/s</li> <li>• Windsifting (plastics)</li> <li>• Densimetric / mechanical removal of stones, glass etc</li> <li>• Magnetic separation (ferrous metals)</li> <li>• Eddy current separation (non-ferrous metals)</li> <li>• Other</li> </ul>
62	<p>To what extent do you agree or disagree with the following statements about potential barriers to producing FOGO derived products?</p> <ul style="list-style-type: none"> <li>• Too expensive to produce compared with product value</li> <li>• Contamination of feedstock impacts on product quality management</li> <li>• Inconsistent quality of product</li> <li>• Local governments do not take adequate action in controlling feedstock contamination</li> <li>• Unclear market strategy/policy targets on preferred uptake from State Government</li> <li>• Variable market demand leading to longer-term stockpiling of materials (and possible air quality impacts to sensitive receptors)</li> </ul>
63	<p>Are there any other barriers to producing high quality FOGO derived products that you would like to mention?</p>
64	<p>Which of the following market development or enabling strategies would you like to see considered or prioritised by DWER?</p> <ul style="list-style-type: none"> <li>• All FOGO products need to be quality assured to AS4454</li> <li>• All FOGO products need to be quality assured to market-appropriate specification and/or quality standard</li> <li>• State-wide approach to managing stockpiling (e.g., regional facility, or subsidise prices for agricultural market to move large volumes quickly)</li> <li>• Introduce short-term subsidies/discounts to purchasers to incentivise uptake of FOGO derived products</li> <li>• Fund more trials to support an education campaign on the benefits</li> <li>• Explore introducing restrictions on the use of artificial fertilisers in certain markets</li> <li>• Set legislative targets on how much FOGO product State Government and Councils need to procure in line with sustainable procurement practices</li> <li>• Identify/produce/adopt specific and targeted standards/certification for FOGO products</li> <li>• Create a policy that introduces set targets for processing of FOGO products</li> <li>• Other (please specify)</li> </ul>
65	<p>Key lessons learnt so far with FOGO processing (please provide your key recommendations for consideration by DWER):</p>
66	<p>We are interested in your suggestions to address key barriers to FOGO product uptake in recycled organics markets (please insert your response in the box):</p>

## 8.5 Agriculture

Question no.	Question
67	Where is your farm/property located? (Please provide nearest town or postcode)
68	How large is your farm/property? (in hectares)
69	What % of your farm is arable and/or pasture?
70	<p>What % of your farm is arable and/or pasture?</p> <ul style="list-style-type: none"> <li>• Broad-acre agriculture</li> <li>• Forestry</li> <li>• Turf production</li> <li>• Vineyard</li> <li>• Orchard</li> <li>• Market garden</li> <li>• Other (please specify)</li> </ul>
71	<p>Are you currently experiencing any of the following soil quality problems?</p> <ul style="list-style-type: none"> <li>• None of the above</li> <li>• Non-wetting soils</li> <li>• Sub-soil acidity</li> <li>• Sub-soil alkalinity</li> <li>• Water logging</li> <li>• Excess surface water run-off</li> <li>• Nutrient deficiencies</li> <li>• Low organic matter</li> <li>• Other (please specify)</li> </ul>
72	<p>Do you currently apply (or have you previously applied) recycled organics (e.g., biosolids, manure or compost)?</p> <ul style="list-style-type: none"> <li>• No</li> <li>• Yes</li> </ul>
73	Would you invest in soil amendments such as compost made from municipal Food Organics and Garden Organics (FOGO), if you knew it would improve your bottom line?
74	<p>If you have used recycled organics on you farm before, what are the estimated quantities - please insert details below (e.g., up to around ___ tonnes per annum)</p> <ul style="list-style-type: none"> <li>• Soil conditioner:</li> <li>• Soil blend / potting mix:</li> <li>• Compost:</li> <li>• Mulch:</li> <li>• Pellets:</li> <li>• Manure:</li> <li>• Other product:</li> </ul>
75	<p>Are you interested in using recycled organics products for improving the quality and productivity of your soils?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
76	Would you invest in soil amendments such as FOGO compost, if you knew it would improve your bottom line?

77	How would you use compost in your current practise? What do you see as the key benefits of using compost on your farm?
78	<p>What would be your primary driver for investing in FOGO compost?</p> <ul style="list-style-type: none"> <li>• Reduce quantity of synthetic fertilizers applied (or number/regularity of applications)</li> <li>• Improve productivity (better crop yields and pasture for livestock)</li> <li>• Improve soil structure/quality (including nutrient and water retention)</li> <li>• Improve soil biology</li> <li>• Improve crop resilience (to drought/disease/pest)</li> <li>• Reduce nutrient leaching/losses</li> <li>• Prevent soil erosion</li> <li>• Reduce irrigation requirements and costs</li> <li>• Long term cost savings</li> </ul>
79	<p>Assuming the cost, yield and associated profit margins were similar, which soil amendment would you prefer to apply?</p> <ul style="list-style-type: none"> <li>• Chicken manure</li> <li>• Compost (certified)</li> <li>• FOGO derived compost (certified)</li> <li>• Compost (not certified)</li> <li>• FOGO derived compost (not certified)</li> <li>• Synthetic fertilizers</li> <li>• Other (please specify)</li> </ul>
80	What is the reason for your choice above?
81	<p>How much would you be prepared to pay (delivered cost per tonne) for FOGO derived compost?</p> <ul style="list-style-type: none"> <li>• \$0 – 10 per tonne</li> <li>• \$ 10 – 20 per tonne</li> <li>• \$ 20 – 30 per tonne</li> <li>• \$ 30 – 40 per tonne</li> <li>• \$ 40 – 50 per tonne</li> <li>• \$ 50 – 60 per tonne</li> <li>• \$60 – 70 per tonne</li> <li>• \$70 – 80 per tonne</li> <li>• \$80 – 90 per tonne</li> <li>• \$90 – 100 per tonne</li> <li>• Only interested in FOGO-derived compost if its free</li> <li>• Other (please specify)</li> </ul>
82	<p>Are any of the following, concerns you would have around using FOGO derived compost?</p> <ul style="list-style-type: none"> <li>• I have no concerns if the product is properly pasteurised (to kill weed seeds as well as plant and animal pathogens) and composted</li> <li>• Risk of introducing contaminants</li> <li>• Risk of introducing pests and disease</li> <li>• Cost of product</li> <li>• Cost of compost spreading and incorporation into soil profile</li> <li>• Regulatory controls and associated compliance costs</li> <li>• Availability</li> <li>• Further comment</li> </ul>

83	<p>What are the key concerns or considerations you would have around purchasing a recycled organics product derived from municipal FOGO?</p> <ul style="list-style-type: none"> <li>• Purchase price</li> <li>• Local purchasing</li> <li>• Local supply/availability</li> <li>• Long-term cost savings</li> <li>• Lower establishment costs due to higher productivity or improved plant survival</li> <li>• Quality (assured through standards certification)</li> <li>• No plastic contamination</li> <li>• No glass contamination</li> <li>• No chemical contamination</li> <li>• No heavy metals contamination</li> <li>• No weeds</li> <li>• No disease (e.g., pathogens such as dieback)</li> </ul>
84	<p>When purchasing recycled organics, which of the following standards/certification/guidance are important to you?</p> <ul style="list-style-type: none"> <li>• Australian Standard AS 4454 Composts, soil conditioners and mulches</li> <li>• AS 3743 Potting Mixes</li> <li>• AS 4419 Soils for landscaping and garden use</li> <li>• AS 6000 Australian Standard for Organic and biodynamic products</li> <li>• Fresh Care Food Safety and Quality Program</li> <li>• DWER Guideline: Better Practice Composting</li> <li>• DPIRD general guidance for use of composts in Agriculture and Food production</li> <li>• EcoHort EMS Certification</li> <li>• Other / Requires a new standard (please specify)</li> </ul>
85	<p>What type of product contamination would you consider unacceptable (no tolerance)?</p> <ul style="list-style-type: none"> <li>• Plastic</li> <li>• Glass</li> <li>• Chemical contaminants</li> <li>• Heavy metals</li> <li>• Weeds</li> <li>• Disease (e.g., pathogens such as dieback)</li> <li>• Other (please specify)</li> </ul>
86	<p>What do you see as the key barriers to using FOGO derived products in your market sector?</p> <ul style="list-style-type: none"> <li>• Never heard of it before</li> <li>• Inconsistent product quality</li> <li>• Contamination of product</li> <li>• Cost of product is too high</li> <li>• Cost of transport is too high</li> <li>• Cost of incorporating / applying to soils</li> <li>• Poor product differentiation (similar benefits claimed by other products available at lower cost)</li> <li>• No 'suitable' products</li> <li>• No incentives (e.g., financial, sustainability certification) to change from current established practices (e.g., use of synthetic fertilizers)</li> <li>• No interest in changing</li> <li>• Lack of demonstrated benefits (e.g., productivity increase, improved soil quality, cost savings etc)</li> <li>• Lack of demonstrated cost savings</li> <li>• Lack of education</li> </ul>

	<ul style="list-style-type: none"> <li>• Other (please specify)</li> </ul>
87	<p>If the application of FOGO derived compost demonstrated economic and other benefits, what % of your farm would you consider applying compost to over the long term?</p> <ul style="list-style-type: none"> <li>• 0- 10%</li> <li>• 10 - 25%</li> <li>• 25 - 50%</li> <li>• 50 - 75%</li> <li>• 75 - 100%</li> <li>• None</li> </ul>
88	<p>What % of your your farming sector do you think will use FOGO derived compost over the next 5-10 years?</p> <ul style="list-style-type: none"> <li>• &lt;2%</li> <li>• 2 - 5%</li> <li>• 5 - 10%</li> <li>• 10 - 30%</li> <li>• 30 - 50%</li> <li>• &gt;50%</li> </ul>
89	<p>Would you be interested in participating in a trial to evaluate cost benefits from using a FOGO derived product?</p> <ul style="list-style-type: none"> <li>• Yes, I would be interested in trialing a FOGO derived product because:</li> <li>• No, because:</li> </ul>
90	<p>What type of information would a successful trial need to prove for you?</p> <ul style="list-style-type: none"> <li>• Cost savings (short-term)</li> <li>• Cost savings (long-term)</li> <li>• Increased profits (short-term)</li> <li>• Increased profits (long-term)</li> <li>• Confirm low levels of contamination (reliable product quality)</li> <li>• Higher yields/productivity</li> <li>• Improved seedling survival</li> <li>• Improved crop resilience (to drought/disease/pests)</li> <li>• Effective erosion control</li> <li>• Reduce surface water run off</li> <li>• Better soil conditions after repeated use/application</li> <li>• Suitable method for application</li> <li>• Other (please specify)</li> </ul>
91	<p>Which of the following strategies do you think is required to overcome key barriers in your farming sector?</p> <ul style="list-style-type: none"> <li>• More field trials in my market to demonstrate cost benefits</li> <li>• More field trials in my market to demonstrate other benefits</li> <li>• Targeted education campaigns to share demonstrated benefits</li> <li>• Ensure all FOGO derived products are quality assured to an appropriate Australian Standard (e.g., AS4454 for composts, soil conditioners and mulches)</li> <li>• Tailored specifications/standards/certifications for FOGO products designed to meet the needs of specific end markets'</li> <li>• Introduce short-term subsidies/discounts to purchasers to incentivise uptake of FOGO derived products</li> </ul>
92	<p>We are interested in your suggestions to address key barriers to FOGO product uptake in your farming sector– please leave your feedback in the box</p> <ul style="list-style-type: none"> <li>• Transport costs, no trial evidence to show value of product, bulk product requiring specialised equipment to use</li> <li>• Field days to show how well it works and to help talk farmers through spreading rates etc.</li> </ul>

## 8.6 Property/road/rail infrastructure development, mine rehabilitation, and remediation

Question no.	Question
93	<p>Please select all of the activities, interests or involvements of your organisation:</p> <ul style="list-style-type: none"> <li>• Mine site rehabilitation</li> <li>• Remediation</li> <li>• Property Development (can include rehabilitation and remediation)</li> <li>• Road/Rail Development (can include rehabilitation and remediation)</li> <li>• Other (please specify)</li> </ul>
94	<p>Do you currently use (or have you previously used) recycled organics?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
95	<p>What are the quantities of the below recycled organics (e.g., tonnes per annum)?</p> <ul style="list-style-type: none"> <li>• Soil conditioner</li> <li>• Soil blend / potting mix</li> <li>• Compost</li> <li>• Mulch</li> <li>• Pellet</li> <li>• Manures</li> <li>• Other Product</li> </ul>
96	<p>How interested are you in using recycled organic products containing municipal Food Organic and Garden Organic (FOGO) wastes?</p>
97	<p>If applicable, what would be the main driver for you to use organics in your rehabilitation/remediation activities?</p> <ul style="list-style-type: none"> <li>• Not applicable</li> <li>• Prevent soil erosion</li> <li>• Avoid or minimise use of synthetic fertilizers</li> <li>• Increase seedling survival</li> <li>• Improve water retention and reduce stormwater run off</li> <li>• Long term cost savings</li> <li>• Other (please specify)</li> </ul>
98	<p>If the benefits were similar, which product would you prefer to apply?</p> <ul style="list-style-type: none"> <li>• Mulch (chipped in-situ)</li> <li>• Pasteurised Mulch (sourced off-site)</li> <li>• Compost (certified)</li> <li>• Compost (non-certified)</li> <li>• Other (please specify)</li> </ul>
99	<p>What is the reason for your response above?</p>
100	<p>How would you use compost in your rehabilitation/remediation activities?</p>
101	<p>What do you see are the key benefits?</p>

102	<p>What percentage of your current compost use would you consider replacing with FOGO-derived compost over the long-term?</p> <ul style="list-style-type: none"> <li>• 0 - 10%</li> <li>• 10 - 25%</li> <li>• 25 - 50%</li> <li>• 50 - 75%</li> <li>• 75 - 100%</li> <li>• None</li> </ul>
103	<p>How much would you be prepared to pay (delivered price per tonne) for FOGO derived compost?</p> <ul style="list-style-type: none"> <li>• \$ 0 – 5 per tonne</li> <li>• \$ 5 – 10 per tonne</li> <li>• \$ 10 – 20 per tonne</li> <li>• \$ 20 – 30 per tonne</li> <li>• \$ 30 – 40 per tonne</li> <li>• \$ 40 – 50 per tonne</li> <li>• \$ 60 – 70 per tonne</li> <li>• \$70 – 80 per tonne</li> <li>• \$80 – 90 per tonne</li> <li>• \$ 90 – 100 per tonne</li> <li>• Only interested in FOGO-derived compost if it's free</li> </ul>
104	<p>Which of these concerns are relevant to your consideration of using FOGO derived compost in your projects?</p> <ul style="list-style-type: none"> <li>• I have no concerns if the product is properly pasteurised (to destroy weed seeds and pathogens) and composted</li> <li>• Risk of introducing contaminants</li> <li>• Risk of introducing pests and disease</li> <li>• Expense associated with purchase of product</li> <li>• Expense associated with application of compost</li> <li>• Regulatory controls and associated compliance costs</li> <li>• Availability</li> <li>• Further comment</li> </ul>
105	<p>What are five (5) key determining factors when you consider in the selection and purchase of a recycled organics product?</p> <ul style="list-style-type: none"> <li>• Purchase price</li> <li>• Local purchasing</li> <li>• Local supply/availability</li> <li>• Long-term cost savings</li> <li>• Lower establishment costs due to higher productivity or improved plant survival</li> <li>• Quality (assured through standards certification)</li> <li>• No plastic contamination</li> <li>• No glass contamination</li> <li>• No chemical contamination (e.g., PFAS / phthalates / residual herbicides)</li> <li>• No heavy metals contamination</li> <li>• No weeds</li> <li>• No disease (e.g., pathogens such as dieback)</li> <li>• Other (please specify)</li> </ul>
106	<p>When purchasing recycled organics, which of the following standards/certification/guidance are important to you?</p> <ul style="list-style-type: none"> <li>• Australian Standard AS 4454 Composts, soil conditioners and mulches</li> <li>• AS 3743 Potting Mixes</li> </ul>

	<ul style="list-style-type: none"> <li>AS 4419 Soils for landscaping and garden use</li> <li>DWER Guideline: Better Practice Composting</li> <li>DPIRD general guidance for use of composts in Agriculture and Food production</li> <li>EcoHort EMS Certification</li> <li>Other / Requires a new standard (please specify)</li> </ul>
107	<p>What type of product contamination would you consider unacceptable (no tolerance)?</p> <ul style="list-style-type: none"> <li>Plastic</li> <li>Glass</li> <li>Chemical contaminants (e.g., residual herbicide, PFAS, phthalates)</li> <li>Heavy metals</li> <li>Pathogens</li> <li>Other (please specify)</li> </ul>
108	<p>What do you see as the key barriers to using FOGO derived products in your market sector?</p> <ul style="list-style-type: none"> <li>Inconsistent product quality</li> <li>Contamination of product</li> <li>Cost of product is too high</li> <li>Cost of transport is too high</li> <li>Cost of incorporating / applying to soils</li> <li>Poor product differentiation (similar benefits claimed by other products available at lower cost)</li> <li>No 'suitable' products</li> <li>No incentives (e.g., financial, sustainability certification) to change from current established practices (e.g., use of mulch chipped in-situ)</li> <li>No interest in changing</li> <li>Lack of demonstrated benefits (e.g., increased plant survival, effective erosion control, cost savings etc)</li> <li>Lack of demonstrated cost savings</li> <li>Lack of education</li> <li>Other (please specify)</li> </ul>
109	<p>If applicable, what is your estimated use of recycled organics (e.g., mulch, compost, soil conditioner etc) per annum?</p> <ul style="list-style-type: none"> <li>Soil conditioner</li> <li>Soil blend / potting mix</li> <li>Compost</li> <li>Mulch</li> <li>Pellet</li> <li>Other product</li> </ul>
110	<p>If the application of FOGO derived compost demonstrated (through preliminary trials) to be beneficial for rehabilitation/remediation, what proportion of your current compost use, would you consider substituting for FOGO derived compost?</p> <ul style="list-style-type: none"> <li>Not applicable</li> <li>0%</li> <li>10%</li> <li>25%</li> <li>50%</li> <li>75%</li> <li>100%</li> </ul>
111	<p>What % of the mine rehabilitation sector do you think will use FOGO derived compost over the next 5-10 years?</p> <ul style="list-style-type: none"> <li>&lt;2%</li> <li>2 - 5%</li> </ul>

	<ul style="list-style-type: none"> <li>• 5 - 10%</li> <li>• 10 - 30%</li> <li>• 30 - 50%</li> <li>• &gt;50%</li> <li>• Don't know/no opinion</li> </ul>
112	<p>What % of the remediation sector do you think will use FOGO derived compost over the next 5-10 years?</p> <ul style="list-style-type: none"> <li>• 0%</li> <li>• &lt;2%</li> <li>• 2 - 5%</li> <li>• 5 - 10%</li> <li>• 10 - 30%</li> <li>• 30 - 50%</li> <li>• &gt;50%</li> <li>• Don't know/no opinion</li> </ul>
113	<p>What % of the property development sector do you think will use FOGO derived compost over the next 5-10 years?</p> <ul style="list-style-type: none"> <li>• 0%</li> <li>• &lt;2%</li> <li>• 2 - 5%</li> <li>• 5 - 10%</li> <li>• 10 - 30%</li> <li>• 30 - 50%</li> <li>• &gt;50%</li> <li>• Don't know/no opinion</li> </ul>
114	<p>What % of the road/rail development sector do you think will use FOGO derived compost over the next 5-10 years?</p> <ul style="list-style-type: none"> <li>• &lt;0%</li> <li>• &lt;2%</li> <li>• 2 - 5%</li> <li>• 5 - 10%</li> <li>• 10 - 30%</li> <li>• 30 - 50%</li> <li>• &gt;50%</li> <li>• Don't know/no opinion</li> </ul>
115	<p>What type of information would a successful trial need to prove for you?</p> <ul style="list-style-type: none"> <li>• Cost savings (short-term)</li> <li>• Cost savings (long-term)</li> <li>• Higher sale values for revegetated or remediated land</li> <li>• Confirm low levels of contamination (reliable product quality)</li> <li>• More rapid establishment of revegetation</li> <li>• Improved seedling survival</li> <li>• Improved planting resilience (to drought/disease/pests)</li> <li>• Effective erosion control</li> <li>• Reduce surface water run off</li> <li>• Easier compliance with regulatory requirements and remediation obligations</li> <li>• Suitable method for application</li> <li>• Other (please specify)</li> </ul>

116	<p>Which of the following strategies do you think is required to increase use of FOGO derived products in your market sector?</p> <ul style="list-style-type: none"> <li>• More field trials in my market to demonstrate cost benefits</li> <li>• More field trials in my market to demonstrate other benefits</li> <li>• Targeted education campaigns to share demonstrated benefits</li> <li>• Ensure all FOGO derived products are quality assured to an appropriate Australian Standard (e.g., AS4454 for composts, soil conditioners and mulches)</li> <li>• Tailored specifications/standards/certifications for FOGO products designed to meet the needs of specific end markets'</li> <li>• Introduce rebates/subsidies to purchasers of FOGO derived products</li> </ul>
117	<p>We are interested in your suggestions to address key barriers to FOGO product uptake in your market sector – please leave your feedback in the box</p>
118	<p>Would you be interested in participating in a trial to evaluate cost benefits from using a FOGO derived product?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
119	<p>If you answered yes to the above question, and did not provide these details earlier in the survey, please provide your contact details (name, organisation, phone and email address)</p> <ul style="list-style-type: none"> <li>• Name</li> <li>• Organisation</li> <li>• Address</li> <li>• Address 2</li> <li>• City/Town</li> <li>• State/Province</li> <li>• ZIP/Postal Code</li> <li>• Country</li> <li>• Email Address</li> <li>• Phone Number</li> </ul>





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