

MRA Consulting Group - Press Release

TITLE: Laying out the FOGO benefits and challenges

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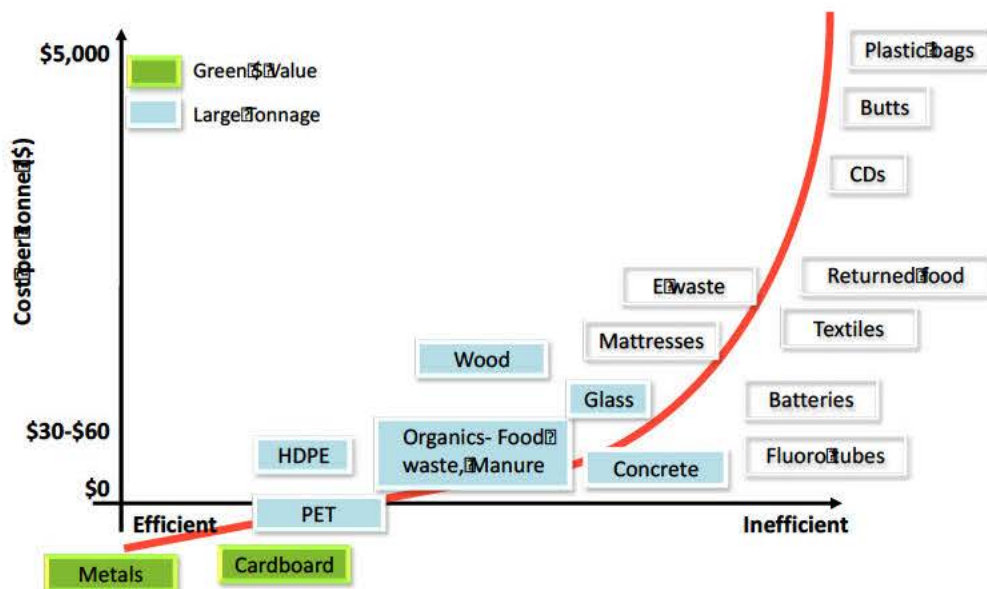
21 July 2017

The case for organics

Australia has a significant and growing challenge in how it manages its waste. Tonnages continue to grow by a compound annual growth rate of 6.2%, six times faster than population growth, and 2.5 times faster than GDP growth. Landfill costs are increasing due to landfill levies and landfill scarcity.

Whilst we are doing well at diverting waste from landfill (the latest national data puts diversion at 58%), we need to do better. In particular, we need to target waste streams that are high volume and less expensive to address. As Figure 1 shows, one of the greatest opportunities is organics.

Figure 1: Economics of waste



Organics make up 53% of the typical residual waste bin (by weight). These organics are predominately food organics. This is the obvious waste to address, and the area of greatest benefit.

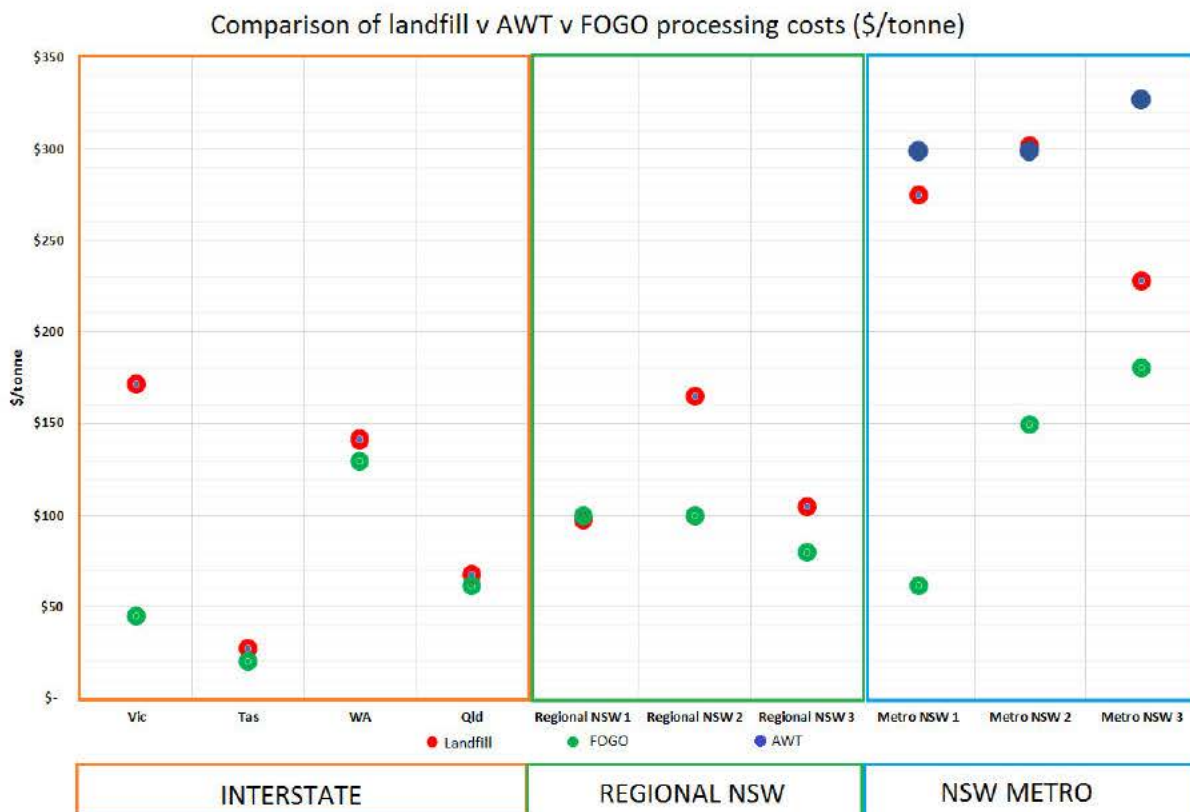
What are the options?

Transferring the residual organics into the GO (Garden Organics) service creates a service known as FOGO (Food organics – Garden Organics). For most councils that already have a GO service, this is a

straightforward step in terms of service delivery. The alternative is to introduce Alternative Waste Treatment (AWT) of the residual waste bin with separation and composting of the organics component.

Both work, and are appropriate for different situations. FOGO service consistently produces a higher value organic product, but it has been generally overlooked in favour of AWT, despite the cost savings for source separated FOGO processing over landfill. Figure 2 shows the price differential for NSW and elsewhere in Australia. AWT is typically more expensive than landfill and FOGO, even with in-vessel processing, is cheaper.

Figure 2: Comparison of landfill cost and FOGO gate fee



FOGO can deliver considerable financial benefits. For an average Sydney council collecting and landfilling 30,000 tonnes of waste per year, the savings in removing even a conservative 50% of the food organics can be up to \$2m every year.

For a tunnel composting facility in regional NSW composting 15,000 tpa of FOGO, growing at 2.5% p.a. and with a facility lifespan of 30 years, the internal rate of return (IRR) is 23% and the payback period is 7 years.

Concerns with FOGO

Whilst it seems apparent that FOGO services have economic benefits, the actual implementation of FOGO collection has been slow, particularly in metropolitan areas.

A recent workshop in collaboration with WMAA found that waste managers consider FOGO collections to be too problematic to warrant even the, often substantial, savings. Their concerns can be broadly classified into four categories:

1. The community is not interested;
2. It is difficult for Multi-Unit Dwellings (MUDs);

1. The community is not interested

FOGO is, however, widely accepted outside the city. Rural communities are adopting FOGO services far more than metropolitan ones, even in locations where the costs of landfill disposal provide some, but not significant, savings. FOGO is popular in rural Australia, and certainly rural NSW. Figure 3 and Figure 4 show this in stark terms. There are clearly additional motivations in these rural and regional areas.

The disparity between rural and metropolitan communities suggests that this could be approached better. Communities need to be engaged with change. They need to see why it is necessary, how much waste can be diverted and how much money saved and how those savings will benefit the community. If rural communities can be engaged on this, urban communities can too. Penrith and Adelaide have shown this is achievable.

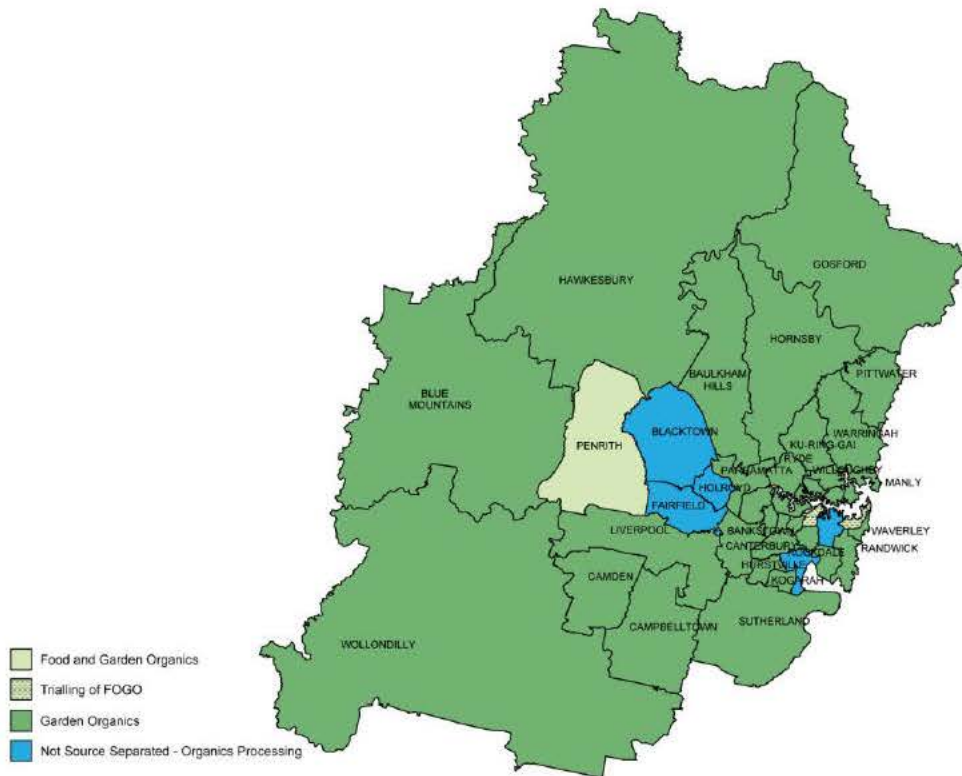
Food and Garden Organics

Garden Organics

Not Source Separated - Organics Processing

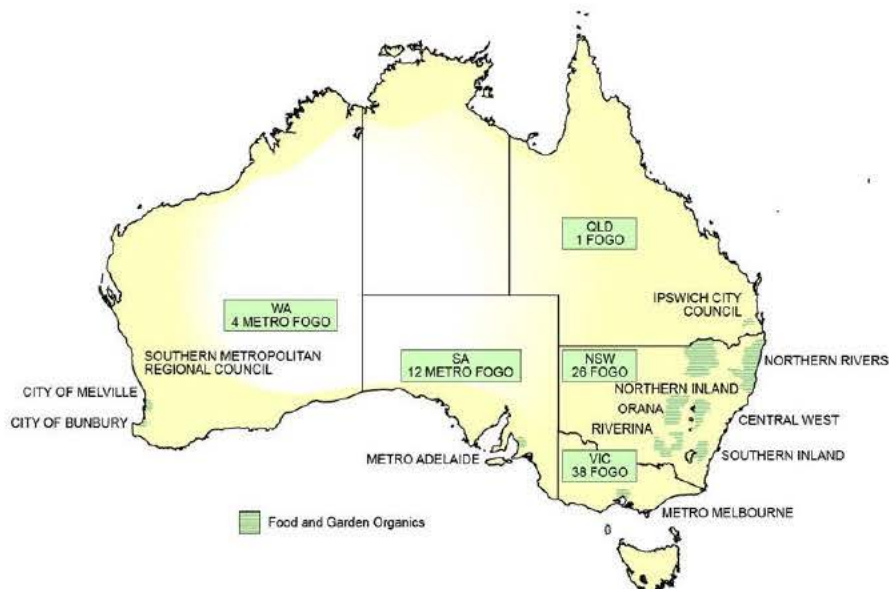
No Organics Bin Service

Figure 4: Organics Bin Service - Sydney Councils



FOGO implementation is even more patchy across Australia, with substantial potential to grow. Figure 5 shows where FOGO services are currently being offered in Australia.

Figure 5: FOGO Service - Australia



2. FOGO won't work for Multi-Unit Dwellings

MUDs are difficult, though not impossible. There are many logistical and social reasons why this is so, including building design, storage capacity, socio-economic barriers and turnover. Well researched and

supported community education can reduce some of these, and bin design and service arrangements can overcome others.

In NSW and other regions, resources and funding opportunities are available to assist councils in meeting these challenges.

So, whilst MUDs are difficult, there is little justification to withhold a FOGO service from all households. Whilst the number of MUDs is increasing in all metropolitan councils, particularly in Sydney, there is ample opportunity to introduce a FOGO service for households. Even limited to households, a FOGO service can make a substantial difference.

The City of Penrith, for instance, doesn't offer a FOGO service to MUDs, but does for all other residents. Instead, MUDs in Penrith have their residuals processed through AWT, a pragmatic approach to optimise organics recovery.

3. FOGO contamination rates are too high

Contrary to common belief, FOGO services around Australia typically perform better than kerbside recycling services. Where kerbside recycling has contamination around 8%, FOGO services typically have contamination rates well below 5%.

A survey of FOGO service providers showed that typical levels of contamination levels were manageably low (Table 1).

Table 1 Typical physical contamination rates in FOGO

Council/Area	Physical contamination (% by weight)
Penrith	4.7%
Parkes, Forbes, Bathurst	1%
Metro Adelaide	5% on a good day, 10% on a bad day
Regional SA + commercial FO	<1%
Lismore	1%
Ballina	1%
Byron Shire	2%
Richmond Valley	3%
Grafton	1%
Orange	1%
Greater Shepparton	5.7%
Moiria Shire	0.5%
Benalla Rural City	2.1%
Strathbogie Shire	7.8%
Wangaratta Rural City	1.3%
Albury	1-3%
Wodonga	2%
Corowa	0.7%
Indigo	0.8%

This shows that FOGO contamination is low particularly where the community receives a well-structured and informed education campaign.

Processors themselves observe that, once the community has a good understanding of what they are being asked to do and why, contamination is not really an issue.

4. There are no processors capable of accepting FOGO

The final objection comes from the perception that processors cannot accept food in the garden organics bins. That may have been the case historically, but is no longer.

In Sydney, there is a 50,000 tonne per annum excess in processing capacity. Facilities have been approved, built and are waiting for the FOGO tonnes to come. It is a similar story in other cities.

There is no shortage of capacity, but the concern persists because of the perception that there is no market for recycled organics as compost.

The fact is that Australian agricultural soils are increasingly deficient in nutrients and organic carbon. These soils can absorb any amount of compost. The compost produced from processing all available organics across Australia would cover less than 0.5% of the compost needs in Australian agriculture.

Field trials demonstrate time and time again that the net result of compost in agriculture is significantly improved yields and sustained soil health. Farmers, realising the benefits of compost, are buying it as a regular farming input, just like fertilisers. Contrary to perceptions of limited markets for recycled organics as compost, the market is close to infinite.

The Penrith Experience is a significant factor

A final factor (especially for Sydney councils) to overcome is the “Penrith Experience”. A situation where FOGO has been historically perceived to have failed, and this being well broadcast whilst the considerable successes are disregarded.

The successes at Penrith include Council achieving greater than 60% diversion from landfill as early as 2010/11. That is a significant achievement. Equally, contamination rates in Penrith FOGO bins are now around 4.7%, significantly less than the typical recycling bin contamination rate of 8%. The Penrith Council is saving millions of dollars in waste disposal costs every year.

To get to this point was not easy, and contamination was high in the initial years. Penrith learned a lot of lessons and these can be used by other Councils:

- Be gradual with the introduction. Introduce Food Organics into the Garden Organics bin as a weekly service, but maintain bin size and collection frequency of the residual bin. Only when the new FOGO service settles down should the residual bin be dropped to a fortnightly service.
- Offer alternatives for residents with different needs and capacities.
- Introduce education before, during and after. Have ongoing incentives and disincentives to encourage correct sorting and bin selection.

These are all lessons that need to be learned, not reasons why FOGO shouldn't be implemented.

FOGO represents low hanging fruit for many Councils

The economics and experience across Australia support the fact that FOGO works. It makes particular economic sense where a Garden Organics service is currently in place, and where landfill levies are high. In this case, FOGO immediately saves money and further reduces waste greenhouse gas emissions.

It is acknowledged that every council is different, however overall there are considerable benefits to be realised. The transition to FOGO can be tailor made to suit each and every situation. Different bin combinations and timings, rewards and penalties, as well as contracting arrangements will all lead to the right service for individual councils' residential mix and needs.

Implemented carefully, FOGO saves money and increases diversion. It gives councils more time to consider more challenging decisions around enhanced waste processing technology and instead maximises the use of demonstrated solutions that are current in the marketplace.

The way forward

In considering how to address the growth in waste to landfill, councils need to study organics closely. MRA can help councils decide if separate FOGO collections should be introduced, or whether AWT processing of the residual bin is the best path. We can test the business case, analyse and design FOGO implementation for individual council circumstances.

If a FOGO service is the preferred option, MRA can support internal communications and policy discussions to obtain the best practical and economic pathway to implementation. We can also support the development and implementation of community education.

Ultimately, MRA is confident that a thorough consideration of FOGO can maximise waste diversion and thus financial savings, and enable councils to invest in the future of their communities.

As always, I welcome your feedback on this, or any other topic on [‘The Tipping Point’](#).

MRA Consulting – Company profile

MRA was voted “Best small consultancy in waste in Australia” in 2013, 2014, 2015 and 2016 while in 2017 we were voted best small consultancy in Australia in:

- Education & Training;
- Community consultation;
- Reporting and compliance;
- Strategy, policy, planning & grants; and
- Tender development & evaluation.

MRA provides services to large and small business and all levels of government. The MRA team includes engineers, planners, economists, lawyers and scientists.

MRA:

- Is a national leader in carbon reporting, compliance, planning, approvals and project development.
- Develops strategies for technology providers, Councils and businesses.
- Delivers tailored commercial advice including economic modelling, market studies and market entry.
- Provides comprehensive education and consultation services.
- Has a comprehensive audit and waste assessment program.

MRA is based at Drummoyne in the inner west of Sydney and has offices in Melbourne and Perth. Virginia Brunton is a Principal Consultant with MRA specialising in Organics,