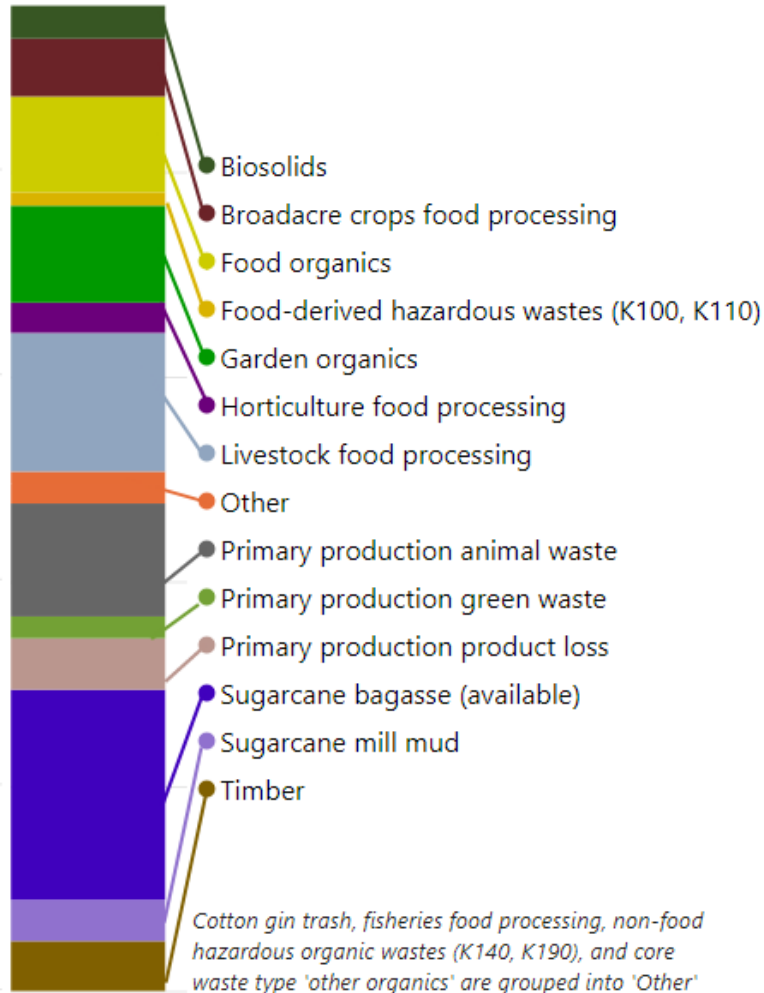


Who is this Australian guy

- Commerce degree, Originally a nurseryman, Grad Dip App Sci (Hort)
- Lived in the US 2000-2003 Vice President North America, Loved Canada.
- Went horticultural consulting as Oalwood Consultants in 2003 potting mix formulation, container plant nutrition, mineral Zeolite for Ag and tropical golf,
- 2008 Started 1 day for Enviromix 50,000 tonnes, GM to Director and shareholder, started a satellite site Biomix 100,000 tonnes open windrow.
- 2018 built a freeway over it the site, freelanced with smaller independents mainly compliance. I have an EPA notice...
- 2019 Started consulting to Sacyr, a Spanish multinational 120,000 tonnes vessel set, acid scrubbers with indoor maturation, 4 days of compost storage, 3 days of oversize and mid fraction, still there making it flow. Now a MSIF company.
- Camperdown Compost Company – Chairman of their Advisory Board.
- AORA Board since 2014

Australian Organic Recycling Performance



- Currently recovering about 58% of organics, mainly compost, some AD for energy. Reference point paper and cardboard is 62% or glass at 59% National Waste Report 22-23 figure for 20-21
- **Core organic wastes**
- The 2020–21 data show that about 14.4 Mt, or 562 kg per capita, of core organic wastes were generated, comprising about 4.7 Mt of food waste, 4.7 Mt of garden waste, 2.4 Mt of timber, 1.6 Mt of biosolids⁴⁸ and 0.94 Mt of other organics
- Food & Garden Organics (FOGO) Canada FOYO
- State Government Mandates 2027-2030 depending on the State
- Really GOFO or YOFO in Canada, every household, MUD's exceptions

AOR Industry Economic Contribution

- 314 businesses operating;
 - Providing 5,032 jobs to
 - Pays over a \$426 million in wages and salaries
 - Average livelihood per employee of \$76,710 compared to Australian average weekly earnings of \$69,103;
 - Has a collective industry turnover of over \$2.1 billion;
 - Sources and provides \$1.9 billion in benefit across its supply chain;
 - Invests \$156 million in land, buildings, plant and equipment and vehicles each year; and
 - Contributes \$781 million in industry value add to the Australian economy.
- \$624 million in industry value add to GDP through flow-on demand for goods and services,
 - 4,227 indirect jobs provided through flow on activity.
 - One job is supported for every 1,538 tonnes of organic material recycled in Australia;
 - The average sales per organics recycling business is \$6.7 million. Expressed alternatively total AORI turnover is estimated at \$272 per tonne of recycled organic material; and
 - Supply chain expenditure is estimated at \$248 per tonne of recycled organic material.

Independent Operators built the industry

Started as compost producers not waste companies, largely open windrow, driven by customers and markets in landscape and agriculture, bagged products. Almost no regulation.



Valoriza Environment Australia



South Eastern Melbourne Compost Facility

Compost Vessel Hall



Maturation Hall



Fun Facts

100,000 tonnes, in 4 weeks later 60,000 tonnes out = 40,000 <16mm compost, 13,000 mid 16-50mm 7,000 50+ oversize
4 days storage, I need 10 semi walking floors per day, compost another 5 for mids and overs sent for further processing. Every day.

Mids & Overs, landfill or reprocessing, no burning waste to energy.

Bi-weekly councils, with weekly garbage <1% by weight,

Weekly Councils with Bi-weekly garbage Great education, middle & class 1.99%, CALD and poor education 3.5%-6%

Cannot contractually reject a contaminated load, even with syringes.

The Circular Bureaucracy in the State of Victoria



“World Class Regulators”

Industry Regulated to a Standstill

- Duties model, Victoria – No odour, dust, surface or ground water, noise **at the boundary** Reverses the onus of proof
- NSW Exemption model everything’s is illegal unless we grant an exemption to make it legal,
 - eg blood and bone processing
- Council Planning Approval, EPA Development Approval + 1% of construction costs.
- 3 tier system License, Permit, Registrations with hefty fees Upfront along with a de-commissioning plan before you start
- Push in Vessel systems and huge buffers for open windrow – Mad Cow & British import experts
- Financial Assurance –Waste codes, truck tracking and “Lawful Place”
- Directors & Management “are Duty Holders” personal fines \$ Hundreds of Thousands
- Companies Fines \$ Millions
- 3-5 year timeframes to get a proposal up.
- Sacyr Melbourne, Now Valoriza, Tender closed Dec 2012, First loads May 2019, Built in 18 months
- Huge variation in risk assessments of feedstocks, High risk in one State is low risk in another. Doesn’t make sense
- **No regulation of Food & Garden Waste contamination or Municipalities collection quality.**
- All responsibility begins at the processors gate.
- Last week submitted our first Responsible Entity Risk, Consequence and Contingency Plans

Multi Nationals

Benefited from regulatory barriers and high capital vessel & tunnel systems

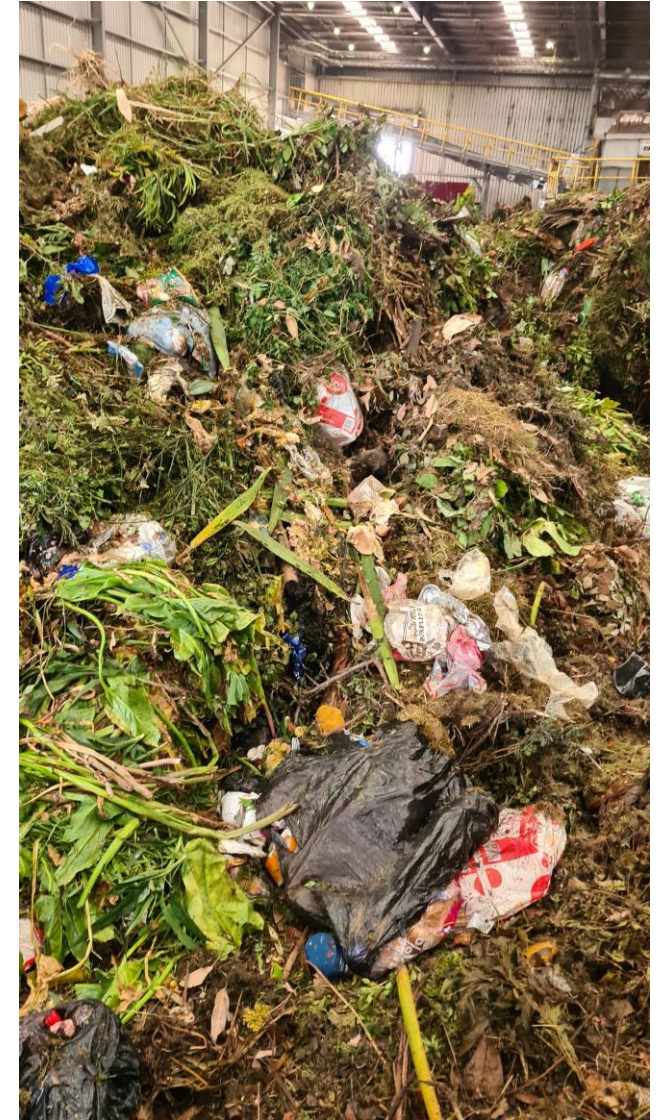


Attracted by large multi-municipal tenders, 15 year + terms and annual CPI contracts.
Favoured by government to shift liabilities to the biggest balance sheets they could find.

Garden Organics Base + Food Waste = Good Collection Frequency change, a contamination disaster for the industry



What weekly FOGO really is with fortnightly garbage



Introduced with 3 weeks notice before we'd finished installing a picking station.
Not even considered in the contract.

What Food Waste is in the public's mind



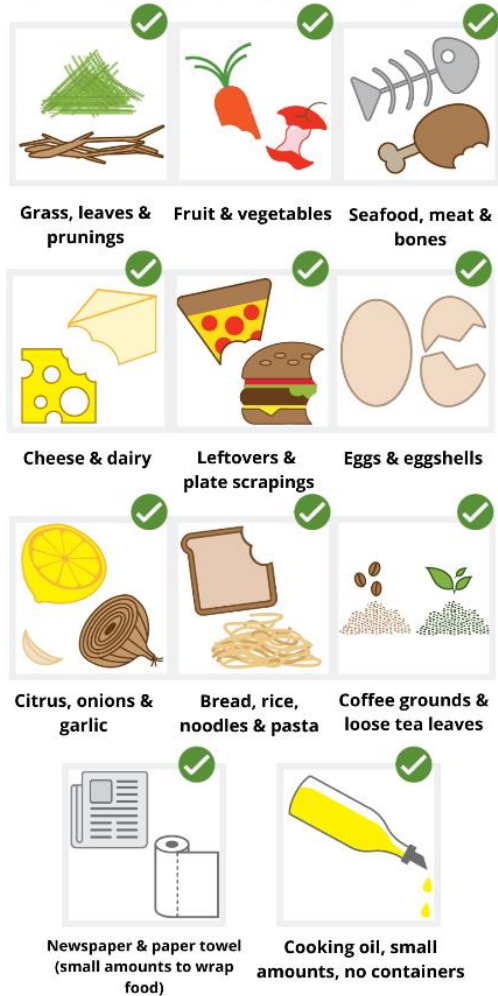
What comes with...

Some more of what Councils & State call Best Practice



Nuance in collection criteria is nigh impossible

What GOES in your garden bin



What DOES NOT GO in your garden bin



Efforts to standardise bin contents is quickly and obviously a lowest common denominator exercise to exclude all but compostable films. Especially CALD councils

Regulator raises the stakes

EPA - Vic No. S 723 Thursday 16 December 2021

Table 2: Non-organic physical contaminant limits

Parameter	Upper limit
Non-organic material (e.g. glass) but excluding light and flexible or film plastic, rocks and stones	$\leq 0.5\%$ of dry matter w/w
Light and flexible or film plastic including biodegradable or compostable packaging	$\leq 0.05\%$ of dry matter w/w

Message to Processors; Be 100% confident of 99.96% compostable disappearance or your product will be illegal to sell

Processors Message: We don't accept any compostable items other than certified compostable liner bags.

Under EPA S 723 this remnant knot from a compostable bag is contamination in the finished product



Most “perverse outcomes” and “unintended consequences” are entirely predictable. Such as no-one in Victoria will touch compostables with a barge pole.

Event based Contamination

- Grand Final Cup Weekend Christmas New Year
- Easter Australia Day Large consumer purchases
- It's not all serial weekly contaminators
- It's many many residents, occasionally overwhelmed by their inadequate rubbish service that contaminate the bins
- A lot of decisions about waste are made between 9pm and 4am
Drunk, Wired, Tired or all three. Not their best selves
- Education needs to be **below** the lowest common denominator.

The current challenge ruining markets



See how small the pieces are; De-weighted bottles shatter & fragment



And here it is in finished product removed by my customers at 0.12% compliant on 0.5%



Who don't buy
it anymore



A little homily



Trust, Reputation & Confidence

Evaporate quickly with devastating effect



Ask a Banker

New Best Practice contamination items



Toothpaste, Floss sticks, Pharmaceutical packs, Cosmetics

Bathroom Wastes, indicates an inadequate garbage service



Council forum on communicating for behaviour change

- **Georgia Marett** - Senior Behavioural Insights Specialist, Behavioural Insights Unit in the Department of Premier and Cabinet
- 51.23
- Behavioural scientist says Finally & most importantly **“Increase Convenience to make the behaviour achievable”**
- She goes onto say how programs that bureaucrats find exciting and wonderful fall over in the last mile because it’s inconvenient.
- With Weekly FOGO Councils have increased the **inconvenience, reduced the service and put up the price**

It's Best Practice, For Whom?

EXCLUSIVE Councils cash grab costs Victorians hundreds of dollars

BIN TAX RIP-OFF

Alex White
Matthew Younan

Councils are slapping Victorians with another new bin tax of up to \$40 and raising rubbish rates by 10 to 20 per cent as the state continues to struggle with the landfill crisis.

Analysis by the Herald Sun shows businesses are being hit with rising rubbish costs that in some cases amount to hundreds of dollars a year.

Almost 60 per cent of councils raised waste charges by more than 5 per cent from July 1.

Over an hour increased rates more than 10 per cent, and some also dropped rates for businesses with new annual waste charges adding to the bill shock.

FULL REPORT, PAGE 2

- Herald Sun Front Page 18th September 2023

People don't care that much, this is not a criticism

- We cannot expect people to care, it's a Waste & Recycling service
- We understand Garbage in = garbage out for data processing etc.
- **We need to re-set our expectation to quality and markets not waste diversion**
- Some wastes and waste generating residents and industries need landfill or incineration, accept it.
- Victoria, No more putrescible landfills will be licensed, 1st W to E just approved for Veolia, 5 year trauma.
- We can't educate our way out in time!. Damage is already done
- Limiting access to garbage disposal does not make the waste go away & ruins source separation

Chasing the last marginal tonnes contaminates the whole effort

- Market damage – 15 years of my work
- Extreme difficulty in removal, technically flawed task
- Move to remediation and least worst uses
- Turns FOGO Compost into NSW - MWOO
- **All Legal responsibility in Victoria begins at the processors gate**
- Council's get a free pass on Source Separation quality
- Contracts push risk to processors

SV's great work on sub soil compost application



Tony & Nick at Camperdown Compost Company. Leading farmers in the district use compost as 1 of 20 practice changes, too complicated a sell, Sub soil, take some cores, clay pan = subsoil = yield success and ROI



A Closer look



is very



depressing

Here's some plastic in a soil core from earlier sub-soiling with alternative supplier.

And we worry about micro-plastic.....



The next regulatory issues PFAS & Micro Plastics are Everywhere and in the compost

- EPA Vic sampled all Victorian players in 2022
- Every composter Victoria has PFAS & Micro Plastics.
- Unusually sanguine about that not at levels of concern.
- 1 ppb Queensland, just eliminate feedstocks over 12 months until you comply
- No regulation on industrial use or inclusion in products
- End of pipe regulation.
- NSW Asbestos problem, recycled timber mulch for parks consequent retail issues.
- Macro plastic problem leads to micro plastics but the Authorities ignore the levels of contamination in kerbside collections
- When is Food and Garden Waste “Mixed Waste”
- **Newly minted AORA policy voted from processors is contamination <2% by weight.**
- **If >2% it's mixed waste, garbage.**

Demand driven Recycled Product Markets

- Loads of “Circular Economy” lip service paid to this idea
- Does not figure in some Municipalities at all, Good and Bad Councils
- Waste push driven, no consideration to successful processing or end markets
- Happy to ruin a successfully operating demand driven market
- Driven by council avoidance of State Tax
- We won't educate our way out of this any time soon

Hedge Funds now joined the multi-nationals Driving Consolidation / Concentration



Morgan Stanley
Infrastructure Partners



Attracted by large multi-municipal tenders, 15 year + terms and annual CPI contracts.
Favoured by government to shift liabilities to the biggest balance sheets they could find.

These guys and more will buy out most of the independent players or beat them in tenders over the next 5-10 years. It will happen quickly.

The state of play is an Industry struggling to find solutions at the rate our well-meaning government sector creates more problems

