



Collaboration for FOGO infrastructure investment in Western Australia

GDA TOWARDS100

"Food waste costs the Australian economy about \$20 Billion per year."

- National Food Waste Strategy, 2017

"The recovery and use of composted FOGO-derived materials in the landscaping and rehabilitation elements of infrastructure projects presents a cost-effective opportunity to close-the-loop on a priority waste stream in WA."

- Andonis Missikos, Chair, Green Deal Alliance

"FOGO is a joint responsibility of local, state and federal government, with local government's role of implementor and catalyser of the community. FOGO is the single biggest high impact emissions mitigation action a household can take."

- Marcus Geisler, CEO, Eastern Metropolitan Regional Council

What is FOGO?

- Food Organics and Garden Organics from households
- Separated at source, to reduce contamination, and collected via a three-bin system

How is FOGO used?

- FOGO is screened and combined with other organic materials to produce a range of Australian Standard Soil Conditioners and Mulch products
- Products utilised in a range of applications from urban amenity to agriculture

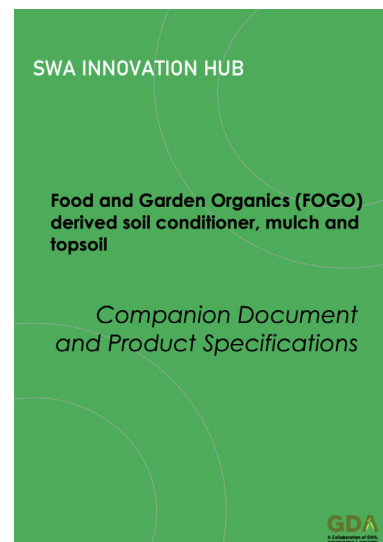
Environmental benefits of using FOGO

- Diverting FOGO from landfill delivers a large greenhouse gas saving equivalent to 0.22 Tco2-e per house hold pa.
- Helps build soil health and biodiversity
- Improves water retention
- Reduces reliance on synthetic fertilisers
- Using material close to source saves on transport emissions
- Returns organic matter to the carbon deficient soils of WA and supports the shift to a circular economy



FOGO products include

- Composted soil conditioner incorporated into topsoil to improve growing properties.
- Composted mulch applied to the soil surface to protect topsoil, retain moisture, prevent runoff, suppress weeds
- Topsoil upper most layer of the soil profile. Can be manufactured by blending sand and clay with soil conditioner.

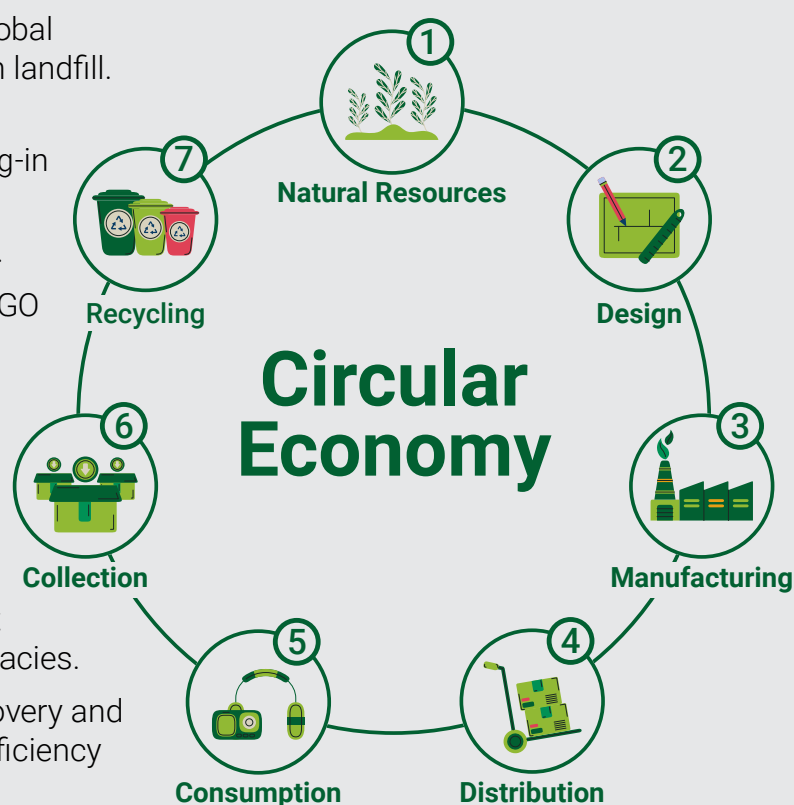



Key facts about FOGO

- FOGO derived products were introduced to the Perth market in 2019.
- FOGO derived products are processed to meet Australian Standards AS 4454 for composts, soil conditioners and mulches or AS 4419 for topsoils.
- FOGO kerbside bin contamination levels at the point of collection at households are below 3%.
- The FOGO process removes physical contamination, and pasteurisation eliminates pathogens and weed seed propagation.
- The FOGO product is being assessed through the Sustainability Waste Alliance-ChemCentre Product Stewardship Scheme in advance of being certified as a fit for purpose product to be used in road and rail infrastructure projects.

What are we trying to achieve?

- Reducing carbon emissions – 18% of global emissions are from organics decaying in landfill.
- Producing > 100kT per annum of FOGO derived base soil improver to produce dig-in compost, soil conditioners and topsoils.
- Australian Standard compliant products.
- Material recovery - diverting 100% of FOGO from landfill (an average of 300kg per household per annum).
- Working towards a circular economy.
- Regional prosperity through enduring jobs and growth (National Taskforce extra 6 jobs per 10kT of material).
- Aboriginal wellbeing through investment aimed at supporting positive cultural legacies.
- Fulfilling waste avoidance, resource recovery and sustainability strategies and resource efficiency action plans.





FOGO processing capitalises on the avoidance of methane emissions from organic waste disposal in landfill by removing organics from the residual waste at the household. This separation at the source and recycling of household organic waste aligns with Commonwealth, State and Local Government strategies for waste reduction, reuse and recycling and the development of circular economy processes whilst adding real value to local communities in the production of new circular materials, job creation and economic development.

In 2022 the Green Deal Alliance commissioned a business case for the roll-out of FOGO processing facilities across the Perth and Peel regions of Western Australia. The findings were compelling and proved there is a strong case for investment.

Benefits and costs were calculated for a network of FOGO processing facilities against an agreed base-case option in line with Infrastructure Australia guidelines and Treasury protocols requiring circular economy outcomes by 2030, whilst enabling all local governments in the Perth and Peel regions to implement FOGO as per the WARR 2030 Strategy.

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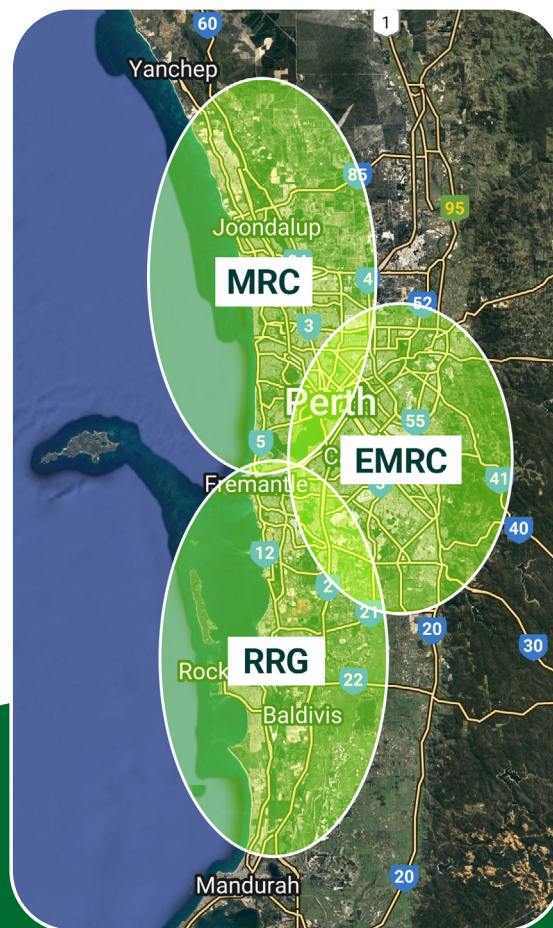
The Green Deal Alliance (GDA) brings together three metropolitan regional councils with a remit to collect and process FOGO material, and the State Government, through the Office of Major Transport Infrastructure Delivery (OMTID), together to facilitate the widescale application of FOGO into Western Australian transport infrastructure projects with a priority on METRONET and other “Big Build” projects.

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- Western Australia's overall recycling rate from MSW (waste from households) in 2019 was 34% using the 2-bin system
- With a 3-bin system, including a FOGO bin, the typical recovery rate is 67%
- The typical recovery rate (diversion from landfill) from the FOGO bin is > 95%
- The proposal primarily addresses FOGO facilities at 3 locations. These three facilities are clustered to service the Perth metropolitan area.
- An additional facility operated by the Bunbury-Harvey Regional Council (BHRC), located in the South West Region of WA, is not part of the GDA, but could add to the overall holistic market solution to deliver FOGO solutions beyond the Perth and Peel regions.

Proposed locations:

- Mindarie Regional Council (**MRC**) upgrade of existing facility to 100,000 tonnes per annum (tpa)
- Eastern Metropolitan Regional Council (**EMRC**) staged upgrade of existing facility of 15,500 tpa to 60,000 tpa, scalable up to 100,000 tpa if required, progressively including other technologies such as anaerobic digestion.
- Resource Recovery Group (**RRG**) currently licensed for 120,000 tpa has spare capacity of 90,000 tpa.



Some facts and figures:

- Organics in landfills generate **18%** of global methane emissions.
- It is estimated that for every 10,000 tonnes of waste recycled, **9.2 jobs** are generated compared to 2.8 jobs for landfill.





WARR2030 target – by 2025 Perth-Peel (and potentially the Southwest) organics processing requirement: 345,837 tpa. Current organics treatment capacity: 135,500 tpa therefore likely shortfall: 210,337 tpa (depending on the current and future capacity and availability from the private sector).



An industry led initiative ensuring delivery of the state and federal government targets for Carbon Emissions Reduction, National Healthy Soils Strategy, circular procurement and economy.



The current annual cost of sending FOGO waste to landfill has been estimated at \$49.1M per annum.



Upgrading and repurposing of existing community owned facilities will deliver a network with capacity for all FOGO processing by 2025.



The combination of FOGO-derived products (topsoil, soil conditioner and mulch) is approximately 10% cheaper (based on EMRC demonstration project comparisons) than the conventional industry sourced material for large scale infrastructure builds.



All proposed FOGO facilities returned a Benefit Cost Ratio (BCR) greater than 1, indicating that all sites are economically viable.



The combined BCR for all facilities is greater than 1.7, which justifies the investment.



Regional Councils have 'shovel ready' projects up to \$90M.



Results are strong and indicate that the proposed investment case is viable individually and for the combined program.

'The Green Deal Alliance (GDA) was established with the mission of fulfilling the vision of the Western Australian State Government's Waste Avoidance and Resource Recovery Strategy 2030 (WARRS) and climate action supporting our transition to net zero by 2050'



Department of Transport
Main Roads Western Australia
Public Transport Authority



The business case for FOGO processing facility investment in Western Australia is compelling. Investing in sustainable WA jobs and industry innovation, while protecting and enhancing the State's unique environmental heritage values and assets, is supporting our transition to net zero by 2050. This collaboration delivers a strong economic return for the nation as well as a range of benefits for over 2 million people in the Perth and Peel regions of Western Australia.