



# FOOD ORGANICS & GARDEN ORGANICS (FOGO) RECOVERY STRATEGY



Advancing Perth's Eastern Region 



## CHAIRMAN'S REPORT



The EMRC has a well-earned reputation for collaborative innovation in the fields of waste management and education, resource recovery, environmental management and regional development. The introduction of FOGO

(Food and Garden Organics) represents a major opportunity to demonstrate leadership in action, bringing together member Councils and other stakeholders to help create and implement the most significant step-change in community waste management practices and perceptions for many years.

In developing our FOGO Strategy, a guiding principle has been full alignment with Western Australia's Waste Strategy, encapsulated in the Waste Avoidance and Resource Recovery Strategy 2030 which calls for all metropolitan local government councils to provide a FOGO system by 2025.

This carefully-considered Strategy will form a cornerstone of our mission to identify and negotiate the next vitally-important steps towards full adoption of FOGO. It will provide a roadmap to help ensure our communities are fully informed, enthusiastically engaged and confidently prepared for the successful rollout of FOGO in our region.

**Cr David McDonnell**  
EMRC Chairman



## CHIEF EXECUTIVE OFFICER'S REPORT



Most householders are probably unaware that over two-thirds of waste collected in household bins is organic material, currently lost to landfill. More positively, there is absolutely no doubt that FOGO is the single biggest

opportunity for the community to have a direct impact on reshaping this picture, separating at the household and recovering this organic material and keeping valuable resources productive in the circular economy.

Our FOGO Recovery Strategy deliberately adopts a regional approach towards education, processing, recycled content procurement and partnerships with end markets. It will provide clarity and consistency as together, we move confidently towards a new era of waste management, applying local, proven solutions to create new economic, social and environmental benefits. FOGO will also add critical infrastructure to our region which will continue to benefit the community for many years to come.

This Strategy will enable us to explore and deliver the full benefits of the FOGO revolution for our stakeholders, member Councils and their communities as well as alternative sources of organic waste. We look forward to working with the member Councils and supporting them to deliver a flexible, responsive and upbeat approach to the challenge.

**Marcus Geisler**  
Chief Executive Officer

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PART  
**01**

**OUR VISION  
FOR FOGO  
IN THE REGION**

# OUR VISION FOR FOGO IN THE REGION



Traditionally a landfill operator, over the last 30 plus years the Eastern Metropolitan Regional Council (EMRC) has been transforming its waste management practices. In step with other leaders in the waste management industry, the EMRC has continually explored options to extend its waste treatment practices up the waste hierarchy, with the aim of recovering material where feasible rather than disposing of it to landfill and losing the embedded energy and value.

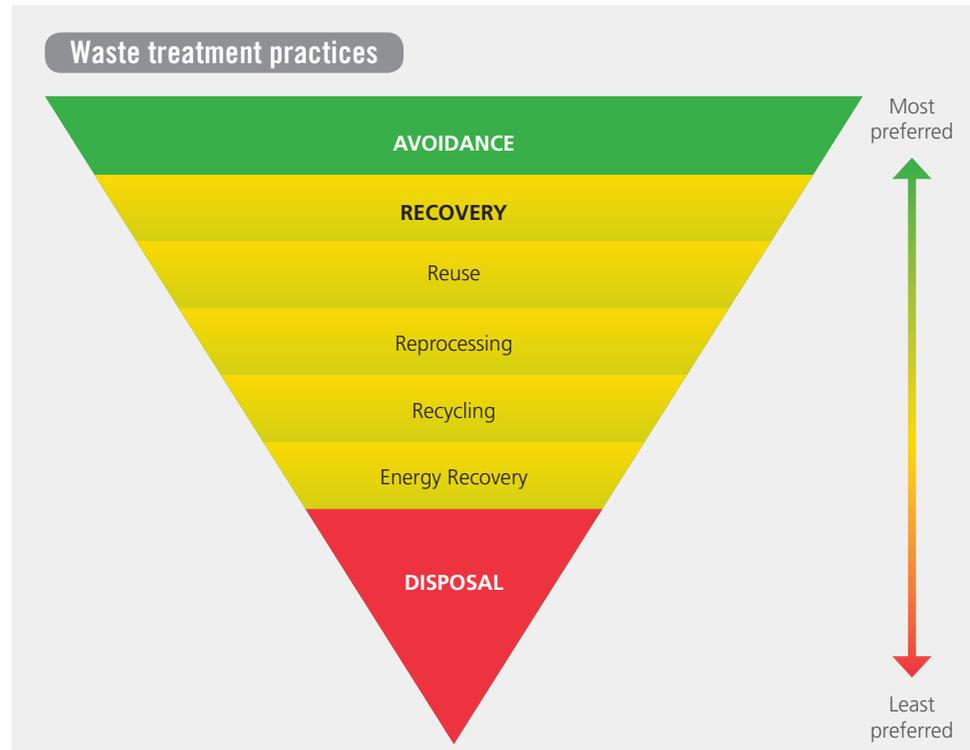
This has led to the development of innovative facilities and processes to recover those resources.

Key among these are the EMRC's Hazelmere Resource Recovery Park which houses WA's first mattress recycling facility and waste timber recycling facility, and where a wood waste to energy facility using waste timber and producing biochar and electricity to power its own and neighbouring facilities will commence operation in 2020.

Across the region is a series of community collection hubs, drop-off centres, transfer stations and collection points at shopping centres and Council offices (for batteries, mobile phones and fluorescent tubes) where householders can take reusable material that isn't collected in their normal household bins. Problem products such as e-waste and household hazardous waste (paints and chemicals) can be taken to Red Hill Waste Management Facility for free disposal under the Western Australian Local Government Association (WALGA) program funded by the WA Waste Authority.

Since 2002, the EMRC has undertaken a careful and considered exploration of resource recovery options to deal with the remaining household waste – the general waste stream that goes in the red lid bin. Our region generates approximately 130,000 tonnes of this waste annually. Reducing the amount of waste generated (avoidance) is clearly an important message to continue to push. To maximise materials recovery and deal with the household waste generated in line with the Waste Hierarchy, two solutions are now being progressed.

In 2018, the EMRC in conjunction with four of its member Councils, entered into an agreement with the Hitachi Zosen Inova (HZI) consortium for residual household waste to be processed at its waste to energy facility (W2E) in East Rockingham from 2022/2023.



Residual waste is defined as waste which remains following the application of better practice source separation and recycling systems. The State Waste Strategy 2030 now states that, from 2020, only residual waste can be accepted and processed by W2E facilities.

However, in the Circular Economy, whilst there is energy recovery, W2E is regarded as leakage. The challenge will be to ensure that, as far as possible, only residual waste goes to the HZI facility, and we will need the continued concerted efforts of all householders to diligently separate their waste at source if we are to achieve this. We will be working hard to make sure this message is communicated, received, and acted on.

That leads to our primary solution for materials recovery, which is the focus of this strategy. In 2019, the EMRC is commencing the journey towards the recovery of Food Organics and Garden Organics (FOGO) material. Of the 130,000 tonnes of general waste that our region produces annually, approximately 40% (55,000 tonnes) is food and organic waste. If each household can separate out this material very carefully to minimise contamination levels, this FOGO material can be efficiently and successfully reprocessed into compost and potentially biogas.

The EMRC sees FOGO collection and reprocessing as a key component of our future integrated waste management solution. In its focus on FOGO recovery, the EMRC is aligning closely with the State Waste Strategy 2030. The WA Waste Authority has identified eight headline strategies that it will be pursuing to support achievement of the State's targets for recovery of waste. Three of these headline strategies will directly support the EMRC's FOGO strategy:

- Three-bin kerbside collection system
- State-wide communications
- Provision of funding



of all household waste is compostable

1

### Three-bin kerbside collection system

A consistent three-bin kerbside collection system, which includes separation of food organics and garden organics from other waste categories, which is to be provided by all local governments in the Perth and Peel region by 2025 and which will be supported by State Government through the application of financial mechanisms;

2

### State-wide communications

Development of state-wide communications to support consistent messaging on waste avoidance, resource recovery and appropriate waste disposal behaviours; and

3

### Provision of funding

Provision of funding to promote the recovery of more value and resources from waste with an emphasis on focus materials including organics.

**Best practice FOGO introduction requires consideration of nine important steps. These steps will be followed by the EMRC in its FOGO launch:**

- 1 Costed plan:** Our task is to develop an implementation plan including a fully costed model accepted by Council
- 2 Early stage community engagement:** Develop some early messaging about WHY
- 3 Design of service:** Cost modelling of different service offerings to identify the optimum service delivery (informed by 2009, 2013 and 2019 bin audits)
- 4 Processing tender:** Develop tender specifications, call for tenders and undergo tender evaluation to obtain the best practice, operating model, and value for processing contractor
- 5 Trial of service:** Interim facility to identify and resolve issues with a view to minimising contamination, maximising participation and producing material for end market development
- 6 Preparation:** Stage the rollout, prepare FAQs and risk management plan, prepare media and marketing plan, identify multi-unit dwelling (MUD) and rural property issues and management, stakeholder engagement plan
- 7 Communications and education plan:** Centrally planned, design, staged community education and rollout. Establish a FOGO Educators Team, centralised at the EMRC in consultation with participating Councils
- 8 Service rollout:** Coordinated rollout, caddy and literature delivery, bin delivery, commencement
- 9 Monitoring and evaluation:** Contamination monitoring, education bin inspections, positive bin sticking, FOGO Educator Team supporting ongoing education, bin audits and reporting.



The EMRC will start the exploration of FOGO by conducting a FOGO processing interim facility in collaboration with the Town of Bassendean and the City of Bayswater. Processing equipment will be in place for the commencement of collections on 1 July 2020 or sooner for both Councils. The EMRC will use this period and the FOGO collection from both Bassendean and Bayswater at an 'interim facility' and will also undertake an extensive education program with the two member Councils, gather data, refine processes and explore marketing of the final composted product at the processing interim facility.



## Variables

It is envisaged that the FOGO interim facility will clarify a number of unknowns including:

- How clean the source material needs to be to ensure the compost can be produced to meet relevant Australian standards (AS-4454)? If we can meet AS-4454 this increases the market for the compost and supports economic viability of the solution;
- How can we maximise the participation of the householders so we capture all the eligible organics for recovery and minimise wastage?
- How easy it is for households to separate FOGO materials to the extent needed to provide a clean waste stream? Householders are used to separating waste into two bins. What messaging and support will be effective in achieving the additional effort needed? What monitoring of bins and bin content is needed and how frequently? Achieving very low rates of contamination is critical to the ability to meet AS-4454;
- Operated by EMRC staff, what are the processing challenges, controls and costs of using a Mobile Aerated Floor (MAF) system to produce AS-4454 compost from FOGO waste;
- What are the sustainable and most suitable markets for the end product, particularly with the volume of compost envisaged?

## Objectives

The objectives for the introduction of these two initiatives – FOGO and W2E are:

- To reduce the amount of waste going to landfill;
- To build capacity within the community to achieve behaviour change to support these initiatives;
- To support member Councils in preparing their Waste Plans;
- To achieve community participation to improve source separation and achieve clean waste streams;
- To ensure an Anaerobic Digestion (AD) facility and/or an appropriate composting operation is ready and available for when member Councils introduce a FOGO collection;
- To confirm that markets exist for the compost produced, to the level required to satisfy economic, environmental and sustainability criteria;
- To have a true residual waste stream for materials going to W2E facilities or landfill (i.e. waste which remains following the application of better practice source separation and recycling systems);
- To build community confidence that only waste going to the thermal W2E facility is residual waste that doesn't have a higher and better use;
- To source funding for initiatives to support source separation and waste reduction (e.g. WA Waste Authority, public/private partnerships);
- To maintain the status of the EMRC as an industry leader; and
- To achieve the State Waste Strategy targets for recovery.

## Principles

This FOGO strategy is based on the following principles:

- The FOGO strategy and implementation timeline will be developed in consultation with participating member Councils;
- An education and end product markets strategy will be developed;
- In consultation with member Councils, the EMRC will provide a team of up to six dedicated FOGO Educators, centrally engaged, trained, managed and coordinated by the EMRC on behalf of member and other participating Councils;
- A system with or without caddy bin liners will be investigated;
- A bin/caddy procurement process will be considered for interested Councils;
- The journey will start with an 18-month interim facility of FOGO processing using a MAF system;
- A tender process will be undertaken for the procurement of sustainable best practice, proven technology and operating options for the permanent FOGO facility;
- All participating Councils will agree to and sign a Participants (Heads of) Agreement, at a time to be determined; and
- The funding of bins, caddies and initial education/product marketing for member Councils will be funded through the Secondary Waste Reserve.

## Success

Our measures of success:

- ✓ Increased volumes of reportable material are being diverted from landfill and recovered from recycling systems;
- ✓ The State Waste Strategy recovery targets are being achieved;
- ✓ Waste reduction, recycling and source separation behaviours have been embraced by the community as a result of intensive/extensive FOGO education;
- ✓ Clean waste streams are being achieved with very low contamination rates;
- ✓ High participation rates by householders (and potentially small/medium enterprises and commercial FOGO);
- ✓ Long-term FOGO processing solution is producing low-contamination, high quality saleable compost (AS-4454 compliant);
- ✓ Sufficient markets are available for the compost produced, and horticulture/viticulture/farming systems are benefiting from healthier soils;
- ✓ The community has confidence that the only waste going to the thermal W2E facility and landfills is residual waste; and
- ✓ Financial contribution is being obtained from external sources to support FOGO and waste education programs and initiatives.



PART  
**02**

ALIGNMENT WITH  
**THE STATE WASTE  
STRATEGY TARGETS**

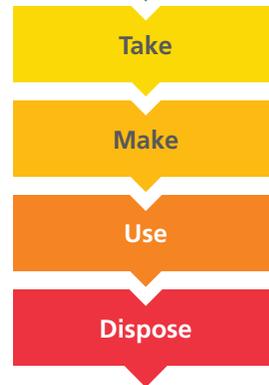
# ALIGNMENT WITH THE STATE WASTE STRATEGY TARGETS



In February 2019 the WA Waste Authority released its new *Waste Avoidance and Resource Recovery Strategy 2030 and Action Plan*. The Waste Hierarchy is one of the guiding concepts in the strategy. Complementing the Waste Hierarchy is the concept of the Circular Economy which proposes a move away from the linear 'take, make, use and dispose' model to one which keeps materials circulating in the economy for as long as possible.

The EMRC Council passed the following resolution at its 21 March 2019 Ordinary Council Meeting:

“That Council notes the release of the Western Australian Waste Avoidance and Resource Recovery Strategy 2030 and Action Plan and commits to aligning the EMRC waste practices where possible.”



# Compost: Nature's Response to the Circular Economy

The two headline waste management initiatives the EMRC is pursuing – FOGO for all six member Councils and Waste to Energy by four member Councils– can both be considered as methods of recovery. For example, through the composting process, FOGO materials are reprocessed into a product that provides ongoing value in agriculture, landscaping, soil enhancement and land rehabilitation. If an anaerobic digestion process is used for FOGO materials, biogas or energy may also be produced.

Composting is in fact the ultimate example of the Circular Economy, explained by the Centre for Organic Research and Education as a cycle:

“  
Food waste is reduced and reused and its nutrients recycled into fertiliser. By returning these nutrients back to the soil, rather than letting organic waste rot away in landfills we can feed diverse life in the soil. The bacteria, fungi, insects and worms in compost support healthy plant growth, which will help offset greenhouse gas emissions.”

(Source: Centre for Organic Research and Education)

Enrich soil  
for crops



Production



CLOSE THE  
LOOP ON  
FOOD WASTE

Food  
consumption



Compost

Some of the compost produced within the region from household organics may be made available to residents, enabling them to be active participants in a local circular waste economy.

In relation to the Waste Hierarchy, recovery through composting is preferred and regarded as a step above Waste to Energy. The State Waste Strategy identifies that only residual waste is to be used for energy recovery. In terms of the Circular Economy, compost produced from FOGO keeps the material in circulation with energy produced through an anaerobic digestion process being circular, while energy recovered through waste to energy processes is regarded as 'leakage' from the Circular Economy. Both initiatives however are above the Disposal option as set out in our State Waste Strategy:

The State Waste Strategy identifies implementation of FOGO systems as a priority, which it states will increase the recovery of material collected through kerbside services. Implementation of FOGO systems will be supported by State Government through the application of financial mechanisms to make it a cost competitive option for local governments. The Strategy also supports the development of local solutions and markets. This is what the EMRC is seeking to achieve with FOGO processing capacity at its Red Hill Waste Management Facility and the development of local markets for the product.



Increase material recovery by 2025



All local governments in the Perth and Peel region provide consistent three-bin kerbside collection systems that include separation of FOGO from other waste categories

(Source: State WARR 2030 Strategy)

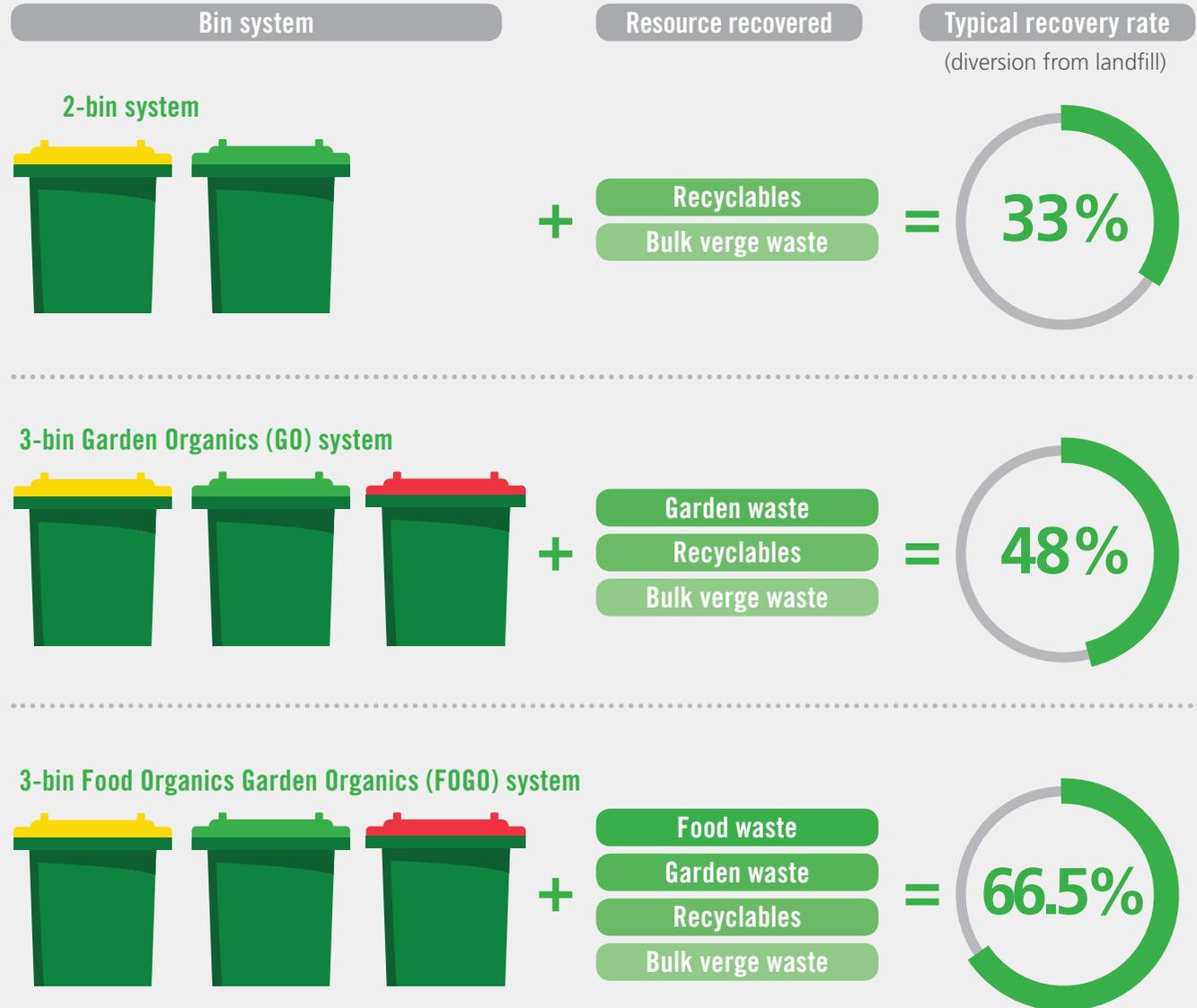


Recover energy only from residual waste



Increase material recovery by 2030

The WA Waste Authority has released a Position Statement on FOGO. This position statement confirms the Waste Authority's support for FOGO collection systems provided by local governments to households. The Position Statement states that four local governments in Western Australia have an established three-bin FOGO service, with several other local governments in the process of introducing the service. The recovery results achieved to date are very positive. The City of Bunbury's FOGO service achieves a kerbside recovery rate of about 65 per cent. The Cities of Melville and Fremantle and the Town of East Fremantle will have fully implemented FOGO collections by 2020, following a successful household FOGO trial in the City of Melville, which achieved a recovery rate of 66.5 per cent as shown in the graphic to the right.



(Source: WA Waste Authority Position Statement)



FOGO collection systems present an opportunity to significantly increase material recovery rates.



FOGO comprises around half of the MSW\* stream; however only about a quarter of that material is recovered.



\*Municipal Solid Waste



PART  
**03**

ALIGNMENT WITH  
**THE EMRC'S  
STRATEGIC GOALS**

## ALIGNMENT WITH THE EMRC'S CORPORATE BUSINESS PLAN

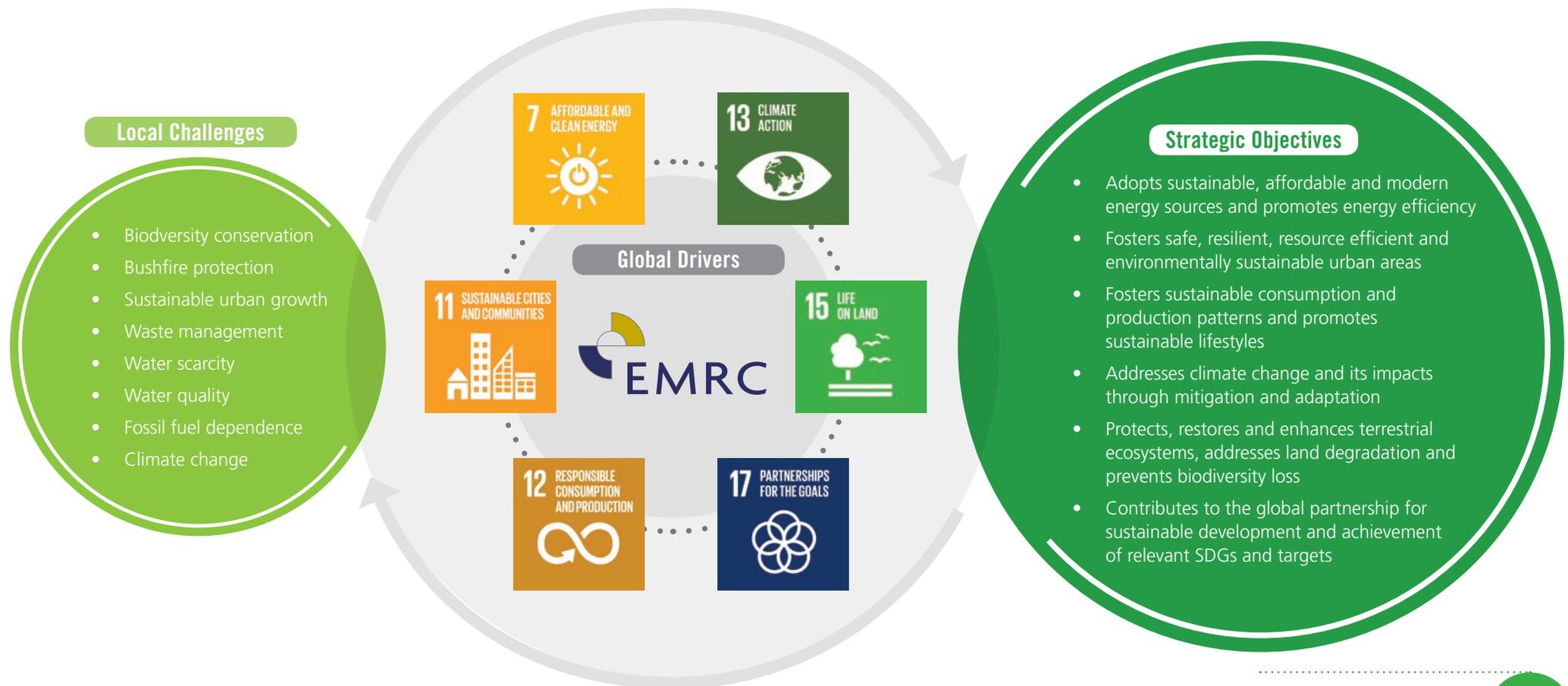


The EMRC's aim for Key Result Area One (KRA1): Environmental Sustainability, in its Corporate Business Plan, is to provide best practice waste management services which are sustainable, efficient and meet the needs of the region. Further, the EMRC's waste position is that waste is a valuable resource that should be utilised in a sustainable and efficient way to meet the evolving needs of the region and protect the environment. Education to drive behaviour is critical to removing barriers to behaviour change.

## ALIGNMENT WITH THE EMRC'S REGIONAL ENVIRONMENTAL STRATEGY AND SUSTAINABLE DEVELOPMENT GOALS (SDG)



The EMRC's *Regional Environment Strategy 2016-2020* was developed using the global United Nations Sustainable Development Goals (SDG) framework. Governments worldwide including the Australian Government have agreed to these goals. SDGs are important globally, nationally and locally. It is planned to continue to embed the SDGs into the Regional Waste Management and FOGO Strategy. The EMRC found that in developing the *Regional Environment Strategy* eight of the challenges most important to the EMRC region aligned with seven of the global drivers (SDGs) and of these seven SDGs, six are relevant to waste management. Sustainable and effective waste management therefore directly contributes to achievement of six of the EMRC's strategic objectives for environmental management in the region. The following diagrams/tables show this interrelationship.



**7** AFFORDABLE AND CLEAN ENERGY



**ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL.**

Potential outputs from processing FOGO materials could include Australian Standard and/or organic compost and biogas/renewable power.

**Relevant SDG targets**

**7.1** By 2030, ensure universal access to affordable, reliable and modern energy services.

**7.2** By 2030, increase substantially the share of renewable energy in the global energy mix.

**7.3** By 2030, double the global rate of improvement in energy efficiency.

**11** SUSTAINABLE CITIES AND COMMUNITIES



**MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE.**

The introduction of FOGO collection and processing in the region adds substantially to the region's ability to achieve the State Waste Strategy targets for recovery and reprocessing of usable materials.

**Relevant SDG targets**

**11.6** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

**11.b** By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.

**12** RESPONSIBLE CONSUMPTION AND PRODUCTION



**ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS.**

The impetus for this project, and the demonstrated need it is addressing is based on the guiding concept of the Circular Economy and keeping recoverable and reusable materials in circulation, including reduction of waste to landfill, recovery of FOGO materials, and production of AS4454 compost.

**Relevant SDG targets**

**12.2** By 2030, achieve the sustainable management and efficient use of natural resources.

**12.7** Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

**12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.

**13 CLIMATE ACTION**



**TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS\*.**

\* Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.

When disposed to landfill, anaerobic decay of organic waste produces methane gas (a greenhouse gas). Removing organic waste from material going to landfill reduces future production of greenhouses gases.

**Relevant SDG targets**

- 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- 13.2** Integrate climate change measures into national policies, strategies and planning.
- 13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

**15 LIFE ON LAND**



**PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS.**

The cleaner the waste stream (i.e. very low contamination levels), the greater the potential for the compost produced to be used to protect and restore terrestrial ecosystems.

**Relevant SDG targets**

- 15.1** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.
- 15.3** By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.
- 15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.
- 15.8** By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species.
- 15.9** By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.

**17 PARTNERSHIPS FOR THE GOALS**



**STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALISE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT.**

The EMRC will seek to establish partnerships with Local Governments and other entities to attract additional FOGO tonnes (up to 45,000 tonnes per annum).

**Relevant SDG targets**

- 17.14** Enhance policy coherence for sustainable development.
- 17.16** Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilise and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.
- 17.17** Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.



PART  
**04**

WHAT WE'RE DOING  
TO INTRODUCE FOGO  
IN THE REGION

# WHAT WE'RE DOING TO INTRODUCE FOGO IN THE REGION



The introduction of FOGO within the region commences with the interim facility of the much wider process of adoption region-wide. The introduction of FOGO will follow these nine steps:



# THE FOGO INTERIM FACILITY – STAGE ONE



## Objectives

The 18-month interim facility has seven key objectives, to:

- 1 Prove the effectiveness of the proposed Mobile Aerated Floor (MAF) FOGO processing technology and confirm the EMRC's capabilities;
- 2 Ensure that a marketable compost product can be produced to meet the Australian Standards (AS-4454);
- 3 Ensure there is a viable market for the compost, thereby confirming the financial and commercial viability of the FOGO strategy;
- 4 Create effective community education and communication that educates and activates community participation in source separation to achieve low levels of contamination and high levels of participation;
- 5 Produce communication/education collateral about 'Our FOGO Journey' that would be made available for use by any participating Local Government Authority (LGA) adopting our FOGO strategy;
- 6 Confirm that the introduction of FOGO collection and reprocessing results in a true residual waste stream; and
- 7 Divert waste from landfill.

# COMPONENTS OF THE FOGO JOURNEY

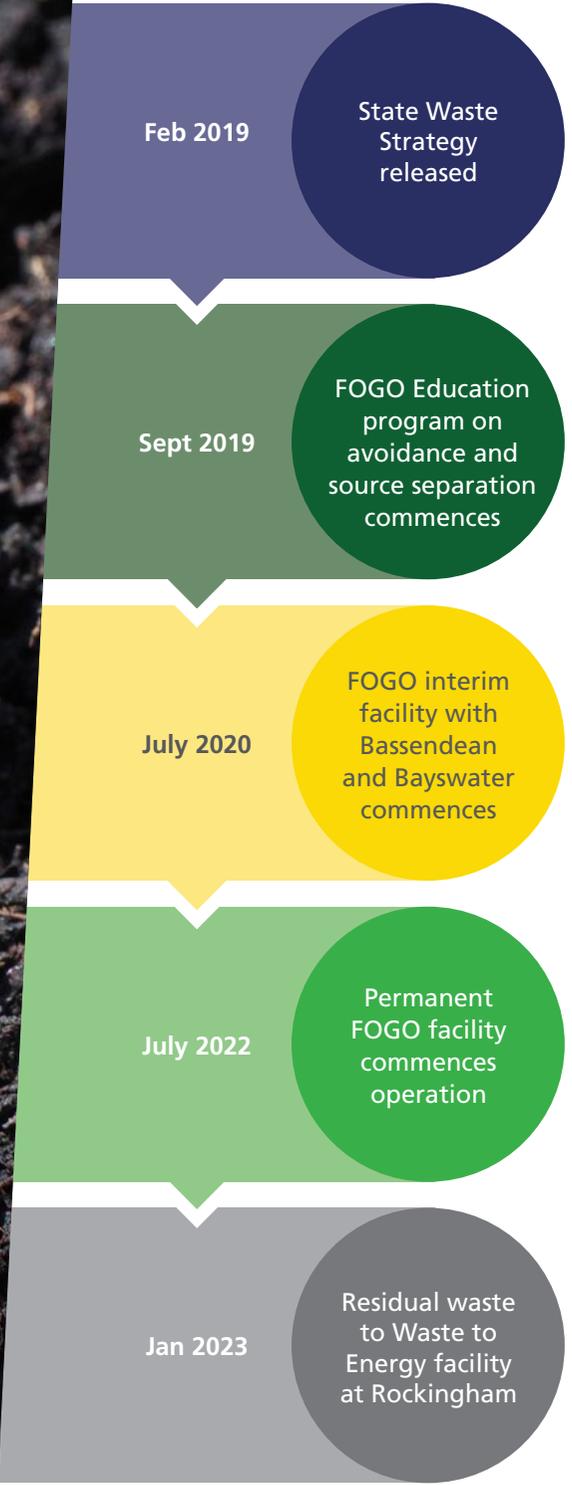
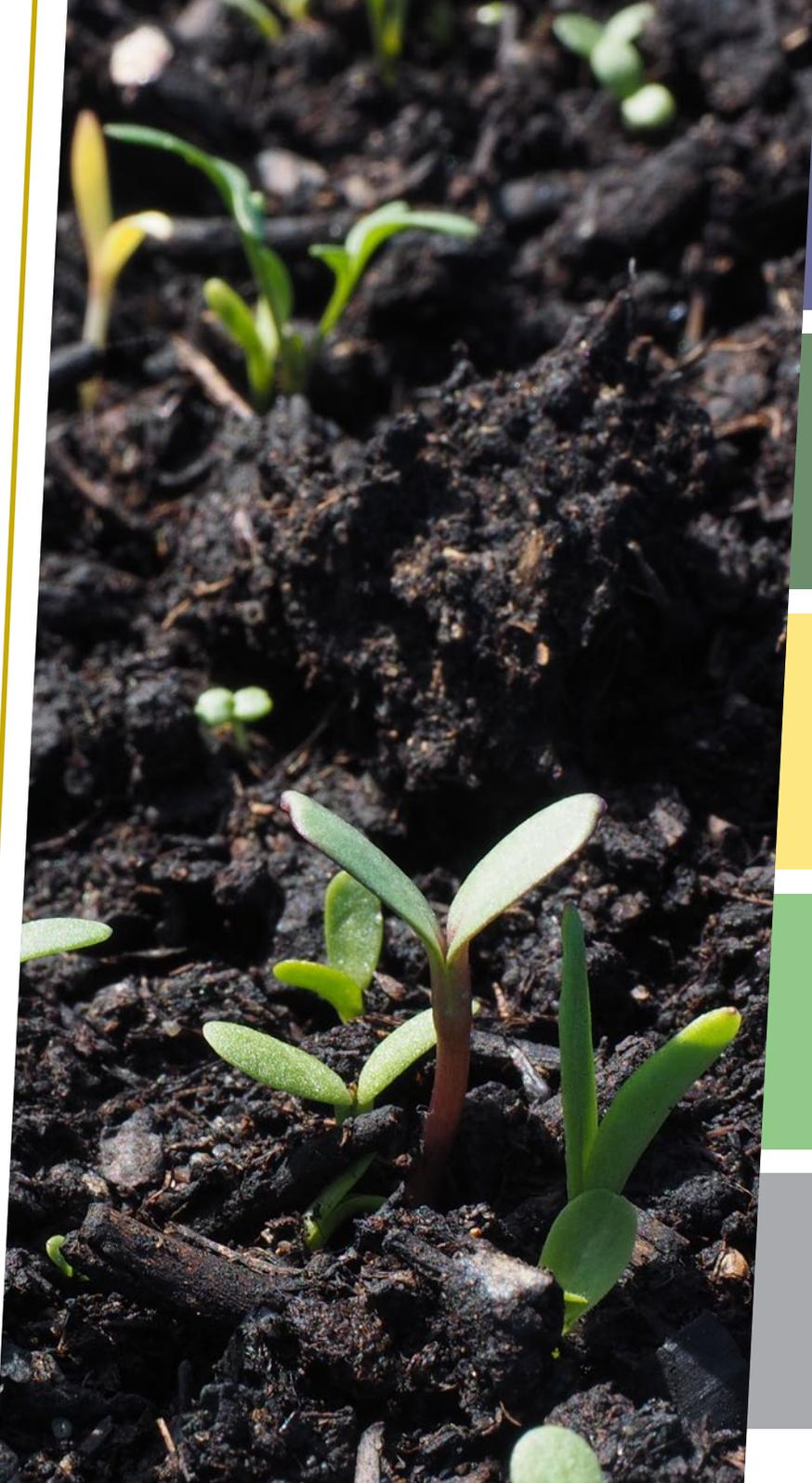


## Research and education

1. Development of a regional communication and community engagement program to build awareness and understanding of the region's move towards FOGO initially with the Town of Bassendean and the City of Bayswater. The EMRC will provide the EMRC FOGO Educators to work initially with both Councils but expand over time to all member Councils.
2. Implementation and testing of targeted communication/community education strategy in the Town of Bassendean and the City of Bayswater to educate residents about appropriate separation behaviour to reduce contamination. This activity is designed to produce as clean a FOGO stream as possible, enabling production of compost to meet AS-4454 and/or organic certification. Lessons learned about effective communication can be utilised to support the large-scale roll-outs of the FOGO system, expected to be around 1 July 2022.
3. Undertake pre- and post-interim facility surveys in the Town of Bassendean and the City of Bayswater to ascertain attitudes and behaviour change, and particularly to determine which messages and methods are most effective in creating awareness about the importance of avoiding contamination and undertaking source separation. The results would be shared with the State and other Local Government Associations (LGA's) introducing FOGO strategies.
4. Undertake a bin audit of all six member Councils' general waste bins to determine level of FOGO content. Undertake a follow-up bin audit six months later to capture the bin content data from two distinct seasons – summer and winter – and refer to previous audits within the EMRC member Councils and other WALGA FOGO audits.
5. Undertake comprehensive marketing and investigation with possible end users of the composted product from interim facility and evaluate the product.
6. Production of a final report that provides a quantitative analysis of results of the interim facility.

## Infrastructure

The processing interim facility at the Red Hill Waste Management Facility will utilise a Mobile Aerated Floor (MAF) composting system.



### Timeline

The attached timeline covers all elements including: structure and timing for the interim facility, the long-term permanent FOGO solution, the education component, the bin/caddy procurement, and funding and cash flow.

- The interim facility will proceed in accordance with the Council resolution from its 21 March 2019 ordinary meeting.
- The education component will commence immediately for the Town of Bassendean and City of Bayswater in readiness for a 1 July 2020 commencement of FOGO collection from their third bin.
- The permanent facility will require a decision by Council at its December 2019 meeting to proceed to tender, with a view to commence the permanent facility by 1 July 2022.
- The procurement for bins and caddies will require a decision by Council to proceed to tender.



Effectiveness of the FOGO solution rests on ‘High participation; low contamination’. This is a program we must work on together as a region, with consistent and coordinated communication, and close monitoring to build community commitment to source separation to achieve the lowest contamination rates possible and where recycled content is the norm rather than the exception.

# THE PERMANENT (LARGE SCALE) FOGO SOLUTION – STAGE TWO



The long-term options for FOGO processing will be investigated concurrently with the FOGO processing interim facility. Research on options for the long-term processing facility will include:

- Facility inspections to review best practice operations in other parts of Australia;
- Ongoing monitoring and review of results from the interim facility;
- Review of technology;
- Evaluate and analyse the effectiveness of alternative FOGO pathways;
- Investigate operating models including Design Build, Operate and Maintain (DBOM) Contractor model, BOO, D&C, waste supply agreement and other models; and
- Undertake extensive procurement process in readiness for a 1 July 2022 start.

## In conclusion

While the EMRC will remain a best practice landfill operator serving Perth’s Eastern Region and the wider metropolitan and peri-urban areas for the future, the State Waste Strategy 2030 states that by 2030 only 15% of material can be landfilled. This means the EMRC and its member Councils must continue to demonstrate leadership by actively exploring effective methods to recover waste, and to extend our operations further up the Waste Hierarchy. The primary strategy outlined in this document – FOGO recovery and processing – supported by treatment of residual waste through a proven and best practice waste to energy process, will ensure we reach the State’s targets and meet the expectations of our communities while also operating sustainably.

The EMRC’s decision to establish a permanent FOGO processing facility provides the opportunity to offer a service to other local governments. Our proposed FOGO facility will have the capacity to process 100,000 tonnes of FOGO per year. The EMRC member Councils supply up to 55,000 tonnes annually, with the remaining 45,000 tonnes of capacity being offered on a fee for service basis to others.

Effectiveness of the FOGO solution rests on ‘High participation; low contamination’. This is a program we must work on together as a region, with consistent and coordinated communication, and close monitoring to build community awareness, engagement and commitment to source separation to achieve the lowest contamination rates possible, as well as changing purchasing behaviours that enables re-purposing and where recycled content is the norm rather than the exception.

The FOGO introduction and its comprehensive education effort is also an opportunity to address the wider messaging and understanding of “separation at the source” systems. The how and what of the yellow lid dry recyclables bin can be integrated into the NEW WAY the EMRC member Councils intend to deal with waste avoidance and resource recovery.

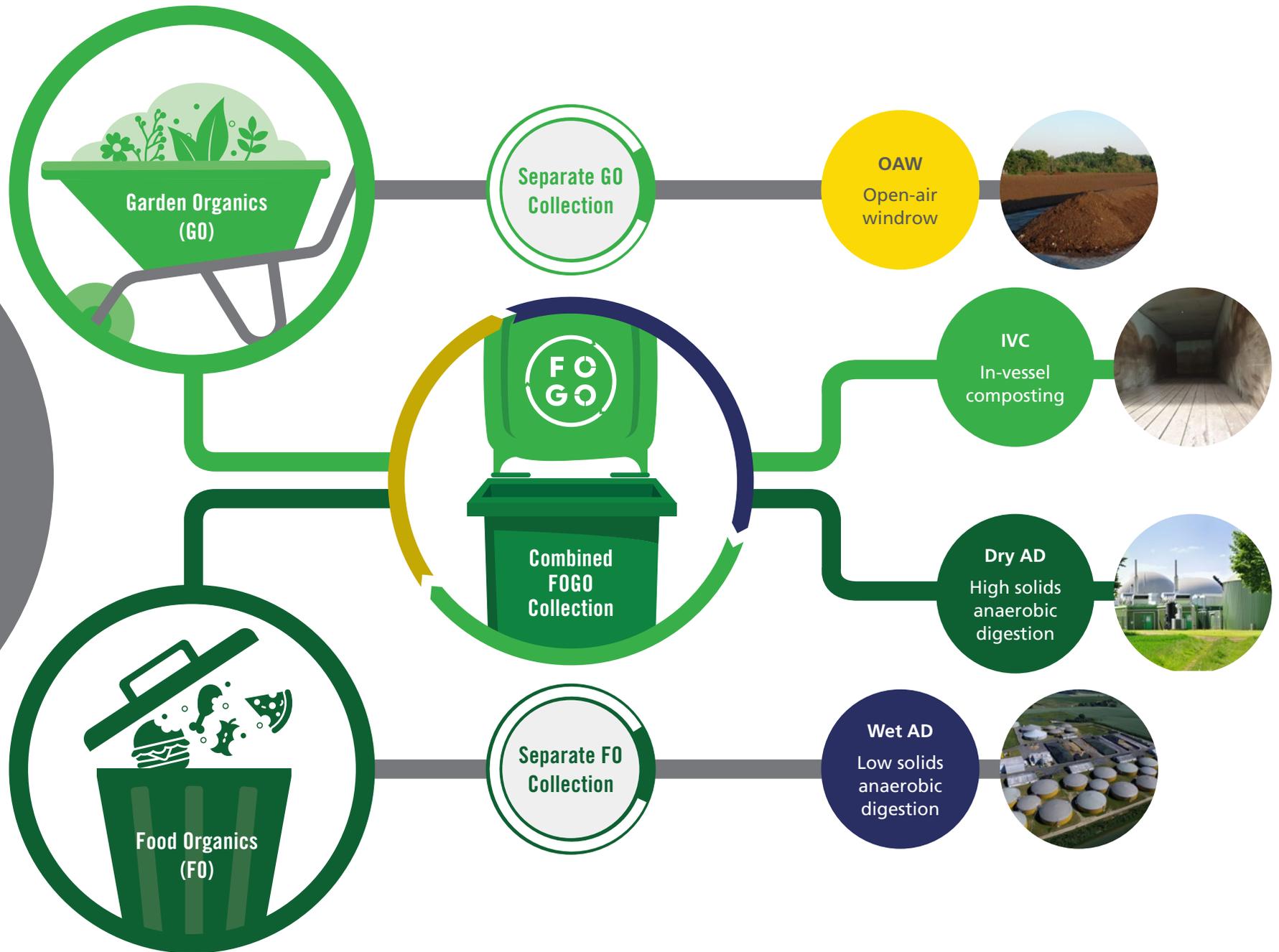
This holistic approach to high participation and low contamination will be detailed in our NEW WAY EMRC education framework which is currently under development.



of material can be landfilled



Industrial Scale Processes, Commercial Model and Costing





# APPENDIX ONE ACTION PLAN AND TIMELINE

## Indicative timeline for FOGO introduction across the region and key actions to be undertaken

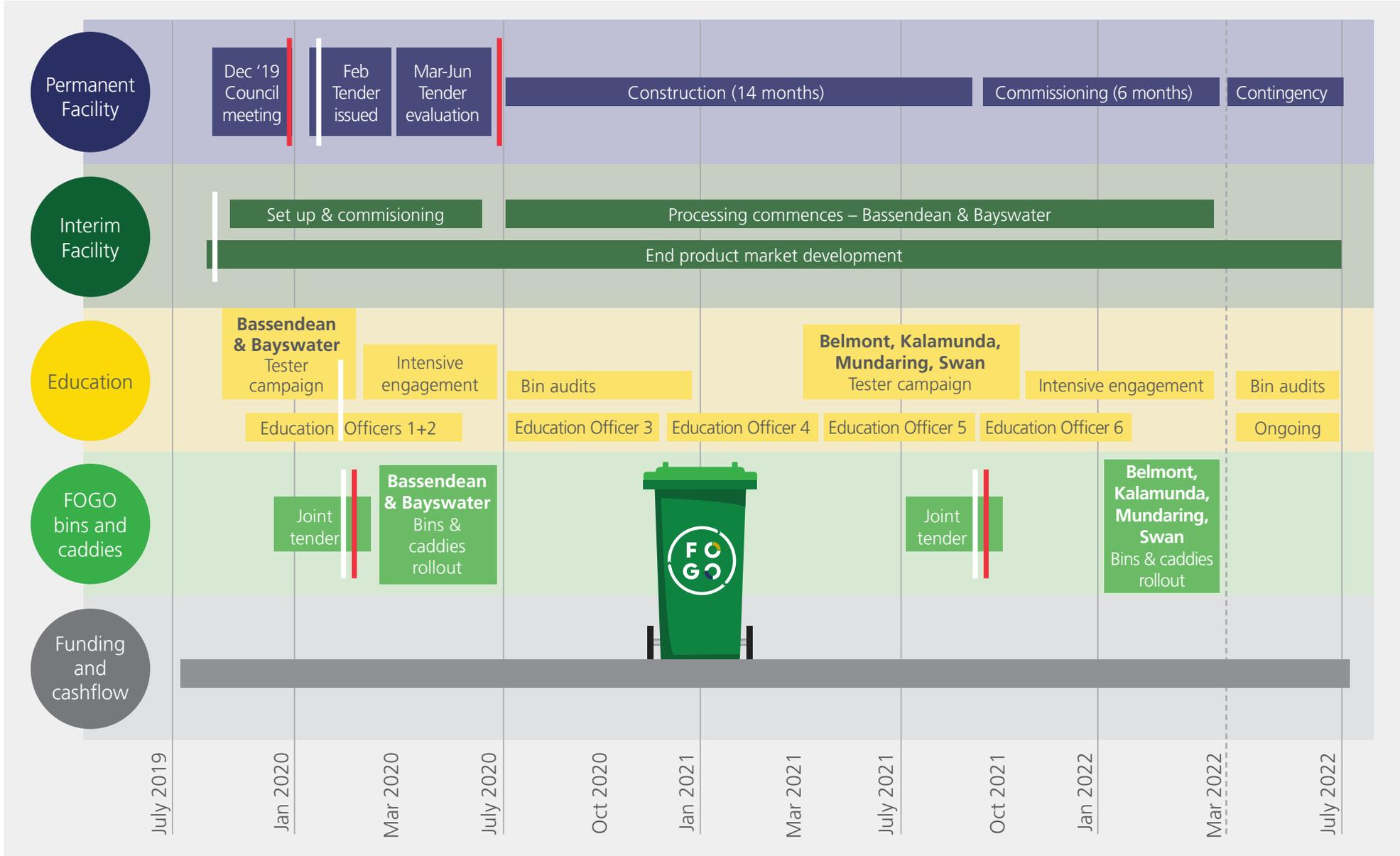
	Key activities	Indicative timing	Important individual components and key decision points
1	EMRC Council approval for the interim facility	March 2019	Completed
2	Authority approvals for FOGO interim facility at Red Hill Waste Management Facility	Conclude by early November 2019	<ul style="list-style-type: none"> <li>• Licence amendment for interim facility area submitted 21 March 2019</li> <li>• Prepare and lodge Section 45C amendment application for Lots 9,10 FOGO processing 28 July 2019</li> <li>• Ongoing consultation</li> <li>• DWER decision November 2019</li> </ul>
3	Infrastructure development for the interim facility	MAF commissioned by March 2020	<ul style="list-style-type: none"> <li>• RFT issued 13 July 2019</li> <li>• Evaluation undertaken and recommendation prepared 21 August 2019</li> <li>• Council approval September 2019</li> <li>• Contract issued September 2019 and installation commences</li> <li>• Procure caddies for Town of Bassendean and City of Bayswater</li> <li>• MAF commissioning by March 2020</li> <li>• Interim facility ready to commence 1 July 2020 and conclude when permanent facility operational</li> <li>• Report on interim facility December 2020 and 2021</li> </ul>
4	Contract with City of Bayswater and the Town of Bassendean to process FOGO waste	By late November 2019	<ul style="list-style-type: none"> <li>• Under development and to commence deliveries of FOGO by 1 July 2020</li> </ul>
5	Face to face consultations with each member Council	Post October 2019, possibly as late as February 2020	<ul style="list-style-type: none"> <li>• At each member Council on a rotational basis and a further strategic forum at the EMRC in early 2020</li> </ul>

	Key activities	Indicative timing	Important individual components and key decision points
6	Research and community education – source separation and contamination management	Ongoing	<ul style="list-style-type: none"> <li>• Pre-interim facility survey in Town of Bassendean and City of Bayswater to be undertaken</li> <li>• Bin audit with all member Councils</li> <li>• Commence with generic ‘taster’ information about what FOGO is from September 2019</li> <li>• The EMRC will initially recruit two (2) EMRC FOGO Educators, with plans to recruit up to 6 to cater for the needs of all member Councils</li> <li>• Run intensive communication/education campaign for all member Councils</li> <li>• Bin tagging undertaken in July 2020</li> <li>• Second bin audit to be undertaken if required</li> <li>• Additional bin tagging undertaken (ongoing where required)</li> </ul>
7	Development and assessment of markets for compost	Commencing August 2019 (ongoing)	<ul style="list-style-type: none"> <li>• Product certification</li> <li>• Conduct field trials across the agriculture sector</li> <li>• Research markets; test feasibility</li> <li>• Model transport costs</li> </ul>
8	Determine permanent FOGO solution for the region	Facility operational by 1 July 2022	<ul style="list-style-type: none"> <li>• FOGO facility inspections and report on findings 28 November 2019</li> <li>• Research project undertaken on effectiveness of alternative FOGO pathways completed March 2020</li> <li>• Identify additional FOGO tonnes from Local Governments and other sources (up to 40,000 tonnes per annum), via a Participation FOGO Supply Agreement</li> <li>• Prepare RFT documents January 2020</li> <li>• Issue RFT March 2020</li> <li>• Finalise tender evaluation May 2020 including ownership, technology and value for money options matrix</li> <li>• Council decision June 2020</li> <li>• Contract finalised 30 June 2020</li> <li>• Construction and commissioning completed March 2022</li> <li>• Joint tender for procurement of bins and caddies for remaining four member Councils December 2021</li> <li>• Facility ready for operation - April 2022</li> <li>• Contingency allowance of 3 months - opening 1 July 2022</li> </ul>
9	Authority approvals for permanent FOGO solution	Lodge June 2020 to December 2020	<ul style="list-style-type: none"> <li>• Works approval and referral to DWER June 2020</li> <li>• Approvals received December 2020</li> </ul>
10	Member Council FOGO implementation	All Councils participating on or before 1 July 2022	<ul style="list-style-type: none"> <li>• Town of Bassendean 1 July 2020</li> <li>• City of Bayswater 1 July 2020</li> <li>• City of Swan by 1 July 2022</li> <li>• City of Belmont by 1 July 2022</li> <li>• City of Kalamunda by 1 July 2022 (to supply commissioning volumes)</li> <li>• Shire of Mundaring by 1 July 2022</li> </ul>

# FOGO Implementation Timelines 2019–2022

**KEY**

- | Council decision
- | Participants (Heads of) Agreement required





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