



Strategic Plan 2018-2025



A hand holding a clear plastic bottle, likely a water bottle, against a gold background with a pattern of white dots of varying sizes. The bottle is held horizontally, and the hand is visible on the left side. The text is overlaid on the right side of the image.

Our Mission is to deliver
world-class recycling
and waste management
services to our Constituent
and client Councils.

Foreword

I am pleased to be able to present the NAWMA 2018 – 2025 Strategy which will transform the way we manage waste and resource recovery on behalf of our Constituent Councils; City of Salisbury, City of Playford and Town of Gawler.

The seven (7) year strategic timeframe comes at a critical moment for local government and the broader waste management and recycling sector. There is immediacy in our need to transition to more circular principles, and the strategies and objectives outlined in this transformational strategy will deliver us local world class recycling and waste management services of global significance.

Through a lens of guiding principles including the circular economy, local employment, cost effectiveness, conservation of natural resources, and innovation, NAWMA will be positioned well to partner with our Constituent Councils and our communities to increase diversion of waste from landfill.



*Brian Cunningham
Independent Chairman*

NAWMA's 2018-2025 Strategy has been prepared in consultation with our Board, Constituent Councils, sector partners and contractors, and industry stakeholders, while having reference to the 2015-2020 SA Waste Strategy and Green Industries SA Benefits of a Circular Economy Study.

As Independent Chairman of the NAWMA Board, I commend the NAWMA 2018-2025 Strategy.



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About NAWMA

The Northern Adelaide Waste Management Authority (NAWMA) is a local government regional subsidiary of the Cities of Salisbury and Playford, and the Town of Gawler. These Councils represent nearly 20% of residents from across metropolitan Adelaide.



About NAWMA



We are delivering several benefits to our Constituent Councils, client councils and the broader South Australian community.

Our economies of scale have impacted positively on the cost of waste and resource management within the region.

In 2018, Australia faced some challenges for recycling due to tighter import restrictions from China. We have provided a pathway to market for collected kerbside recyclables in the face of these challenges. This was made possible through our newly commissioned Materials Recovery Facility (MRF) combined with contractual arrangements with Australian recyclers.

We are also taking leadership on renewables. Our Australia-first investment in a combined solar methane energy plant is producing 11,000 MWh of electricity annually powering 1,800 SA homes.

Our Services and Facilities

Kerbside Collections

We coordinate the collection of waste and recyclables from our Constituent Councils. Through these services, about 45% (by weight) is diverted from landfill. Collected organics are sent to a commercial composter and recyclables are sent for recycling.

Hard Waste

We provide hard waste services and collected material is sent to a facility where it is turned into a Processed Engineered Fuel (PEF).

Waste Education

We run a variety of educational programs targeting different sectors of the community. Our aim is to engage the community and help them understand their important role in helping us transition to a circular economy.

About NAWMA



Resource Recovery Centres

We operate two Resource Recovery Centres including public drive through Waste Transfer Stations and partner with community organisations to provide a Salvage & Save retail operation and Scout Recycling Centre.

Material Recovery Facility

Our MRF receives recyclables from kerbside 'yellow-lid bin' collections. Resources are sorted and baled into commodities ready for sale. These include cardboard, paper, plastic, glass and metals.

Uleybury Landfill

We operate the Uleybury landfill. This site receives waste from kerbside and commercial collections. Prior to reaching the site, the waste is baled at our Edinburgh North facility. This helps us to maximise the use of our landfill airspace and reduces litter and odours.

Renewable Energy Facility

Our solar and methane energy plant is located at the Uleybury landfill site. This plant channels thermal energy from solar panels and methane gas from decomposed waste through a shared turbine inter-connector. A generator converts the two sources of energy into electricity that is fed into the SA grid.

About NAWMA



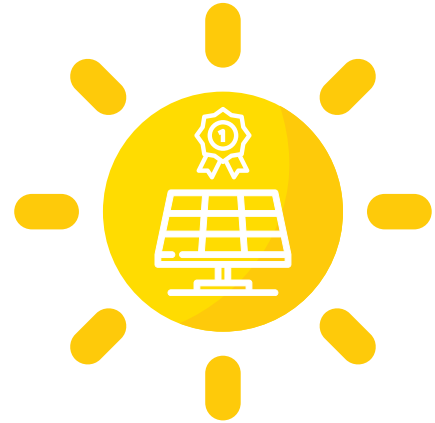
20%

of Metro Adelaide residents
serviced by NAWMA



\$8.5 Million

Investment
in state-of-the-art
Material Recovery Facility



Australia First

Combined landfill gas and
solar powered plant on a landfill site
producing 11,000 MWh of electricity
powering 1,800 SA homes

NAWMA...
A YEAR IN
REVIEW

86,000

tonnes per year
Landfilled material

29,000

tonnes per year
Processed
dry recyclables

37,000

tonnes per year
Recovered organics
sent for commercial
composting in
South Australia

150,000
tonnes

Managed through NAWMA'S
services and facilities



Current Context and Future Drivers

Several recent developments in industry and policy drivers have been considered in the construction of this Strategy, as discussed overleaf.

Current Context and Future Drivers



China Sword

Up until the end of 2017, Australia relied on China to provide a market for its recovered resources (or “recyclables”). In January 2018 China introduced stricter standards for importing recyclables. As a result, low-grade recyclables flooded the market causing prices to plummet.

Circular Economy

A Circular Economy is a self-sustaining system driven by renewable energy and keeping materials and resources in use for as long as possible. A Green Industries SA study¹ found that a more “Circular Economy” could deliver significant job creation and greenhouse gas reduction benefits for South Australia .

This is an alternative to our wasteful ‘linear’ economy that is based on a ‘take, make, use and dispose’ model for resource consumption. Municipal Solid Waste (MSW) services play an important part in moving to a Circular Economy by recovering valuable resources from the waste stream.

Solid Waste Levy

The Solid Waste Levy is paid on every tonne sent to landfill in South Australia (SA). It is set at \$100 per tonne as at 2018-19 and will rise to \$103 per tonne in 2019-20. This creates a financial incentive to divert waste from landfill to recycling pathways.

2015-2020 SA Waste Strategy

SA has a 2015-2020 Waste Strategy. Central to this Strategy is the Waste Management Hierarchy. This provides a framework for waste strategies in order of their preference: waste prevention, reduction, recycling, recovery and disposal. The Strategy includes a target for landfill diversion of MSW. This target is set at 70% landfill diversion by 2020 for Metropolitan MSW. Recycling food waste is identified as a key strategy to achieve the target.

¹Green Industries SA, 2017, ‘Benefits of a Circular Economy in South Australia’, available at: www.greenindustries.sa.gov.au/circular-economy

Current Context and Future Drivers

SA Waste and Resource Recovery Infrastructure Plan

SA has a Waste and Resource Recovery Infrastructure Plan. This Plan estimates investment needed to manage projected waste volumes and meet the State targets for landfill diversion. An estimated \$30 million investment in new or expanded MSW infrastructure will be needed over the next 10 years in Metropolitan Adelaide. This may include investment in technologies such as anaerobic digestion and closed tunnel composting.

The Hidden Cost of Food Waste

It has been estimated that Australian households throw out up to 20% of the food they purchase. This is costing the average household over \$2,000 dollars a year. Key reasons people waste food includes overbuying, not storing food correctly, cooking too much and not using leftovers. Food waste is also a major contributor to greenhouse gas emissions. Education programs targeted at reducing food waste can help relieve cost of living pressures and reduce greenhouse gas emissions.

Salisbury City Plan 2030

The City of Salisbury has a city plan for 2030. This Plan aims for the city to remain internationally recognised for its innovative environmental management in water, energy, waste and biodiversity.

The City will:

- Support businesses to minimise resource usage and waste production
- Develop a strong reputation as a location known for its green industries
- Work with our community to reduce waste

Development of Waste Diversion Strategies for City of Playford

In 2016, the City of Playford commissioned a study to identify ways to increase diversion of waste from landfill based on case studies.

Some key findings included:

- Targeting food waste is a key strategy for increasing landfill diversion
- The best diversion rates are achieved by full roll out of Food and Garden Organics (FOGO) and providing households with ventilated baskets and compostable liners
- Diversion rates are further increased through variations in the kerbside collection system
- Technology on trucks (like RFID, GPS and cameras) can be used to provide feedback to individual households. It can also be used to identify problematic areas where education campaigns should be targeted



² www.foodwise.com.au/foodwaste/food-waste-fast-facts

Current Context and Future Drivers



Town of Gawler Environmental Management Plan

The Town of Gawler developed an Environmental Management Plan (EMP) in 2016. It delivers performance standards across Council business:

- Best practice environmental management
- Compliance with legislation
- Identification, management and reduction of Council's impact on the environment
- Demonstration of Council's due diligence in environmental management

Resource Management is one of the Council's five core themes discussed in the EMP. It identifies objectives and strategies to support sustainable resource management and reduce waste generation.

Key strategies include to:

- Reduce resource use and waste generation associated with Council operations
- Promote responsible waste management and minimise waste disposal to landfill



Mission

Deliver world-class recycling and waste management services to our Constituent and client Councils.

Guiding Principles

Circular Economy

- We promote waste prevention, reduction and recycling
- We extract the maximum value out of discarded products and materials
- We ensure there are end markets for recovered materials

Support Local Jobs

- We process recyclables and waste locally to support and partner with our community, local businesses, and industry

Cost Effectiveness

- We achieve economies-of-scale

Conserve Natural Resources

- We minimise our use of energy and water
- We maximise our use of renewable energy

Innovation

- We run state-of-the-art facilities
- We continually improve our processes and services

Objectives

We have set the following objectives. We will measure our success in reaching these objectives using the following performance indicators.

Objective 1: Achieve best-practice in diversion of waste from landfill

Performance indicators:

- All Constituent Council households to have a three-bin system by 2020
- Increase kerbside diversion from 45% to 70% by 2023
- Reduce the contamination rate of the kerbside recyclables bin to less than 10% by 2023

Objective 2: Advocate and facilitate a circular economy

Performance indicators:

- Recycle 100% of yellow bin (household) recovered material in Australia by 2020
- Engage with Constituent Councils to encourage the purchasing back half (by weight) of their kerbside recovered recyclables in the form of sustainable procurement by 2023

Objective 3: Maintain cost-effectiveness in service delivery

Performance indicators:

- Reduce cost per Serviced Entitled Premise by 5% by 2023 (allowing for LGPI/CPI indexation, and excluding State Government Solid Waste Levy)
- Reduce cost per Constituent Council by 5% by 2023 (allowing for LGPI/CPI indexation, and excluding State Government Solid Waste Levy)
- Efficiently manage the life of the Uleybury landfill, while investigating landfill alternative technologies in readiness for post closure



Strategies

We will pursue the following strategies to achieve our objectives.

Strategies

Strategy	Objective 1	Objective 2	Objective 3
1. Design services to maximise recycling opportunities for residents	✓		✓
2. Deliver best-practice waste education	✓	✓	✓
3. Pursue opportunities to recycle recovered materials in Australia		✓	
4. Work with Constituent Councils to develop markets for recycled-content materials		✓	
5. Investigate opportunities to recover recyclables from the residual stream	✓		
6. Investigate opportunity to consolidate operations to a single-site			✓
7. Pursue opportunities to increase throughput via existing recycling infrastructure		✓	✓
8. Investigate opportunities to invest in new infrastructure that services local government		✓	✓
9. Investigate ways to reduce cost of kerbside collections			✓
10. Pursue partnerships in innovation, research and development		✓	✓
11. Thought leadership in resource recovery, waste management locally, nationally, and globally		✓	✓

Strategies



1. Design services to maximise recycling opportunities for residents

An estimated 80% of material in the general waste (red-lid) bin is recyclable. This includes mainly food waste and some dry recyclables like plastics, paper and cardboard.

There are opportunities to re-design the kerbside collection services to make it more convenient for residents to recycle these materials. This could involve changing the collection frequency and/or size of the bins for recycling. This would have the added benefit of reducing landfill volumes and associated levy payments.

As a minimum, every Constituent Council household will have a three-bin system by 2020.

We will design services to maximise recycling opportunities for residents.

2. Deliver best-practice waste education

Education is needed to achieve community support for NAWMA to transition to circular economy practices. This includes:

- Providing clear and appropriate messaging around NAWMA services (for example, written and digital resources in multiple languages, AUSLAN resources, etc)
- Demonstrating the concept that waste is a resource to be reused and recycled and showcasing the associated benefits to the local economy and environment
- Engaging residents in hands-on waste avoidance and resource recovery projects and workshops
- Ensuring a wide range of community sectors are targeted including residents, property developers, cultural and other groups, schools and other educational institutions

We will deliver campaigns that have maximum reach and impact.

Strategies

3. Pursue opportunities to recycle recovered materials in Australia

Recycling materials in Australia has numerous benefits. This includes:

- Creating local jobs and attracting investment.
- Reducing reliance on overseas markets for recyclables. These markets are volatile and can disrupt business models for recycling.

We will pursue opportunities to recycle recovered materials in Australia.

4. Work with Constituent Councils to develop markets for recycled-content products

Recycled products need end markets. Councils use products as part of their everyday operations such as maintaining parks, gardens, roads and more.

There is an opportunity for councils to substitute virgin products with recycled-content products. For example, using:

- Compost to maintain parks and gardens
- Recycled crushed glass as a replacement for sand in road base
- Park benches made of recycled plastic
- Recycled content paper for council office operations

We will work with our Constituent Councils to develop markets for recycled-content products. This new demand will create jobs and infrastructure investment.

5. Investigate opportunities to recover recyclables from the general waste stream

General waste is currently sent to landfill. There is an opportunity to process this stream to extract valuable materials and/or recover energy.

This could involve, for example, sending general waste to a mechanical biological treatment facility to extract metals and organics for recycling. The residual component from this process could be converted into energy or sent to landfill.

We will investigate opportunities to recover recyclables from the general waste stream.

6. Investigate opportunity to consolidate operations to a single-site

NAWMA operates several waste and recycling facilities. We will investigate opportunities to improve efficiencies and reduce costs by consolidating some of these activities to a single-site.

Strategies



7. Pursue opportunities to increase throughput via existing recycling infrastructure

NAWMA operates a Material Recycling Facility (MRF) that sorts recycled materials from the yellow-lid bins. The facility receives materials from Constituent Councils, client councils and some commercial customers. There is an opportunity to increase the volume of materials received at the facility.

This would:

- Increase economies-of-scale. These cost savings would be delivered to Constituent Councils.
- Provide a cost-effective, high-quality service to new customers.

We will pursue opportunities to increase throughput via existing recycling infrastructure.

8. Investigate opportunities to invest in new infrastructure that services local government

NAWMA services northern Adelaide councils through its network of waste and recycling infrastructure. There may be opportunities to expand the geographical footprint of NAWMA's services. This could be achieved by investing in new infrastructure that services local government in other areas.

We will investigate these opportunities.

9. Investigate ways to reduce cost of kerbside collections

NAWMA and councils across SA mainly use side-lift trucks to collect waste and recyclables from households. This is an efficient and cost-effective method. However, there may be opportunities to further reduce costs of kerbside collections. This may be achieved by changing service models, improving logistical efficiencies and reducing operational costs.

We will explore these and other opportunities to reduce costs of kerbside collections.

Strategies



10. Pursue partnerships in innovation, research and development

The northern suburbs of Adelaide are home to technology hubs. We have an opportunity to partner with organisations to undertake research and development. For example, we could undertake projects with universities to develop innovative robotic solutions.

These partnerships are expected to deliver improvements in the efficiency and cost-effectiveness of our waste and recycling operations. They will also help our local communities by attracting investment, creating new business ventures and jobs.

We will pursue partnerships in innovation, research and development.

11. Provide thought leadership in waste and resource recovery locally, nationally, and globally

NAWMA has a wealth of knowledge and experience in the areas of:

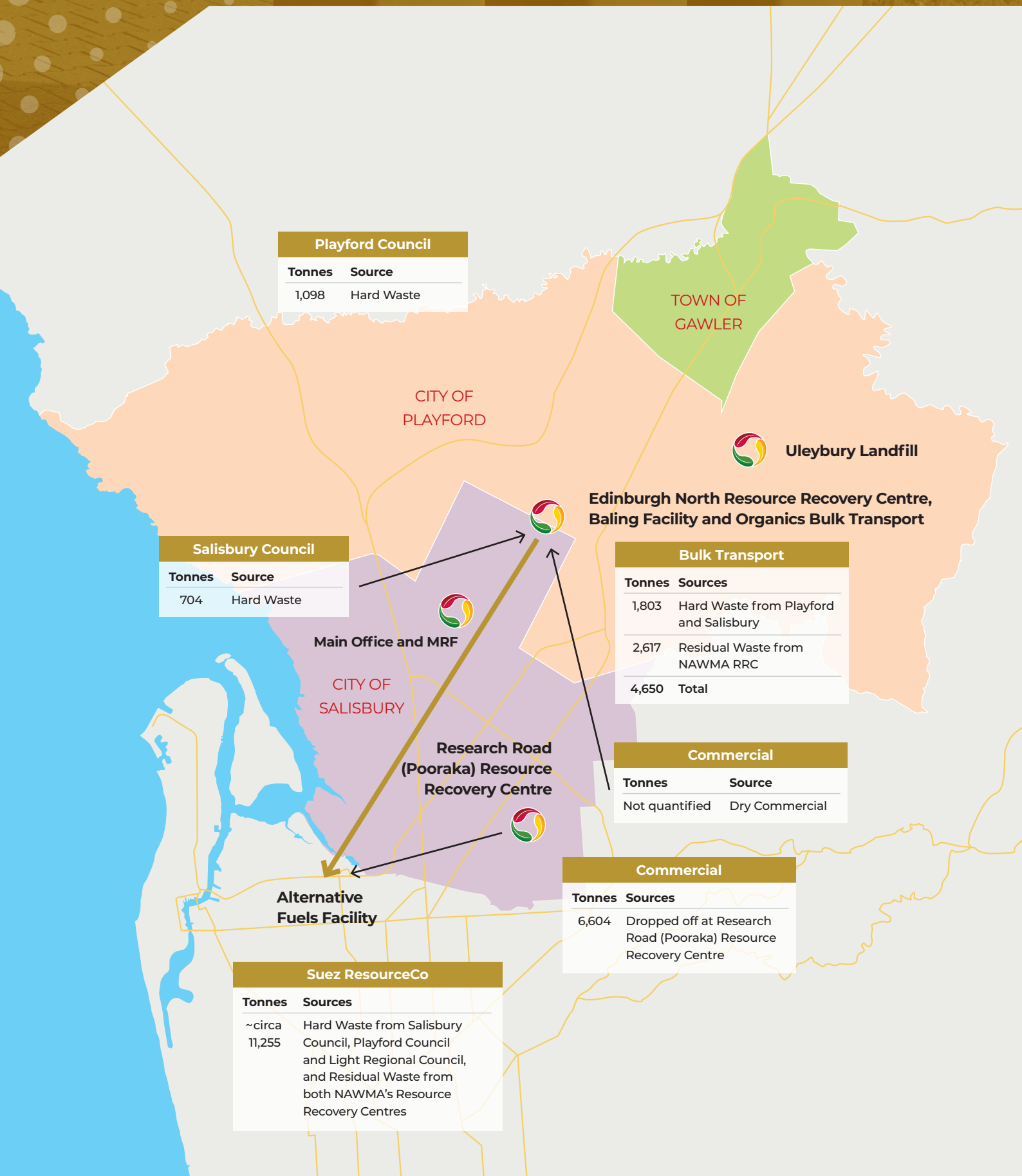
- Development and operation of world-class waste and recycling facilities
- Market development for recovered recyclables
- Waste education and customer service

We have an opportunity to commercialise our intellectual property (IP). We could provide advice to local, interstate and overseas markets. This would assist them to improve their waste and resource management practices.

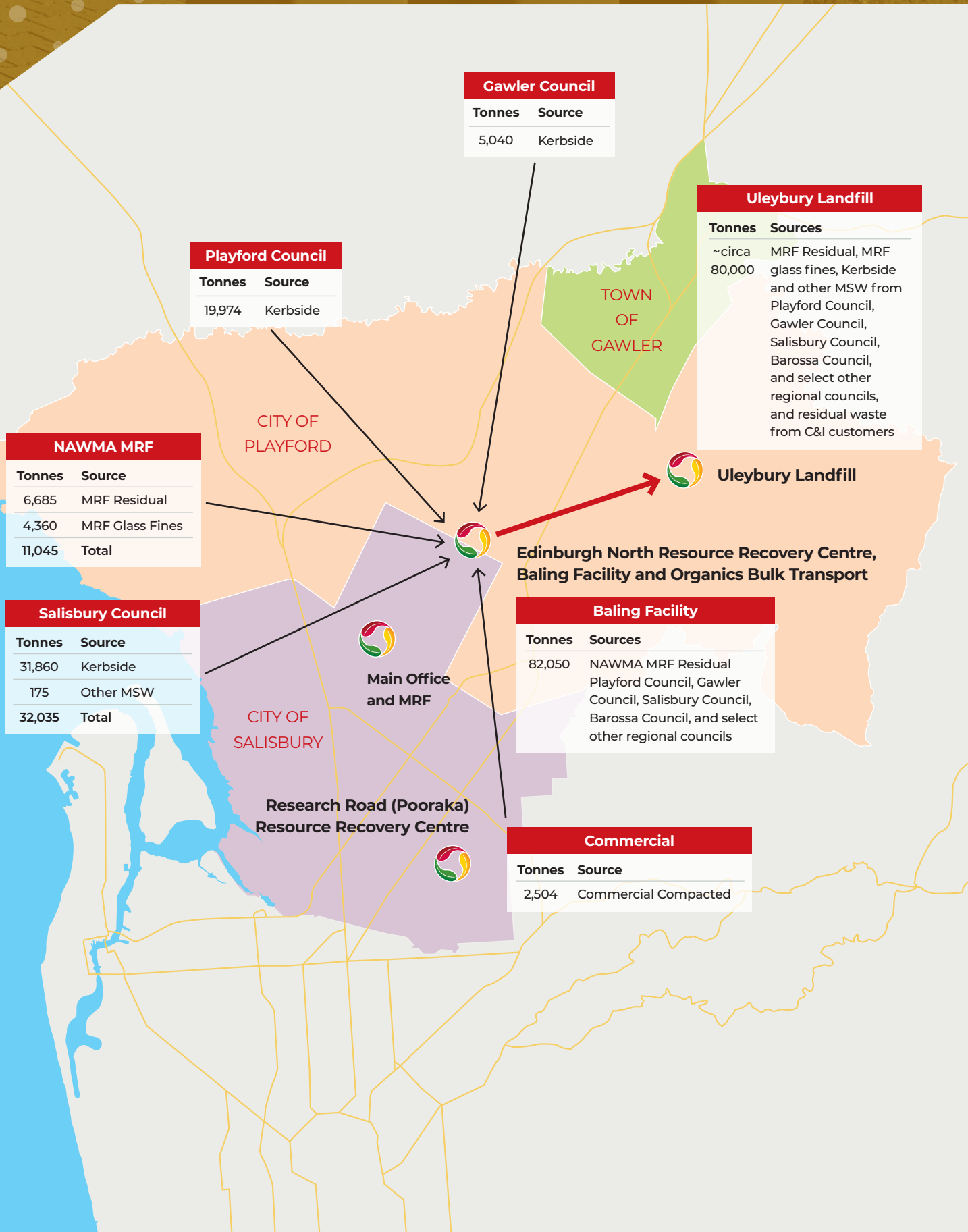
Any financial return from these services would be delivered to our Constituent Councils, while heightening the brand and reputation of NAWMA.

We will add value to Local Government and the waste and resource recovery sector through our IP and explore opportunities to commercialise our knowledge.

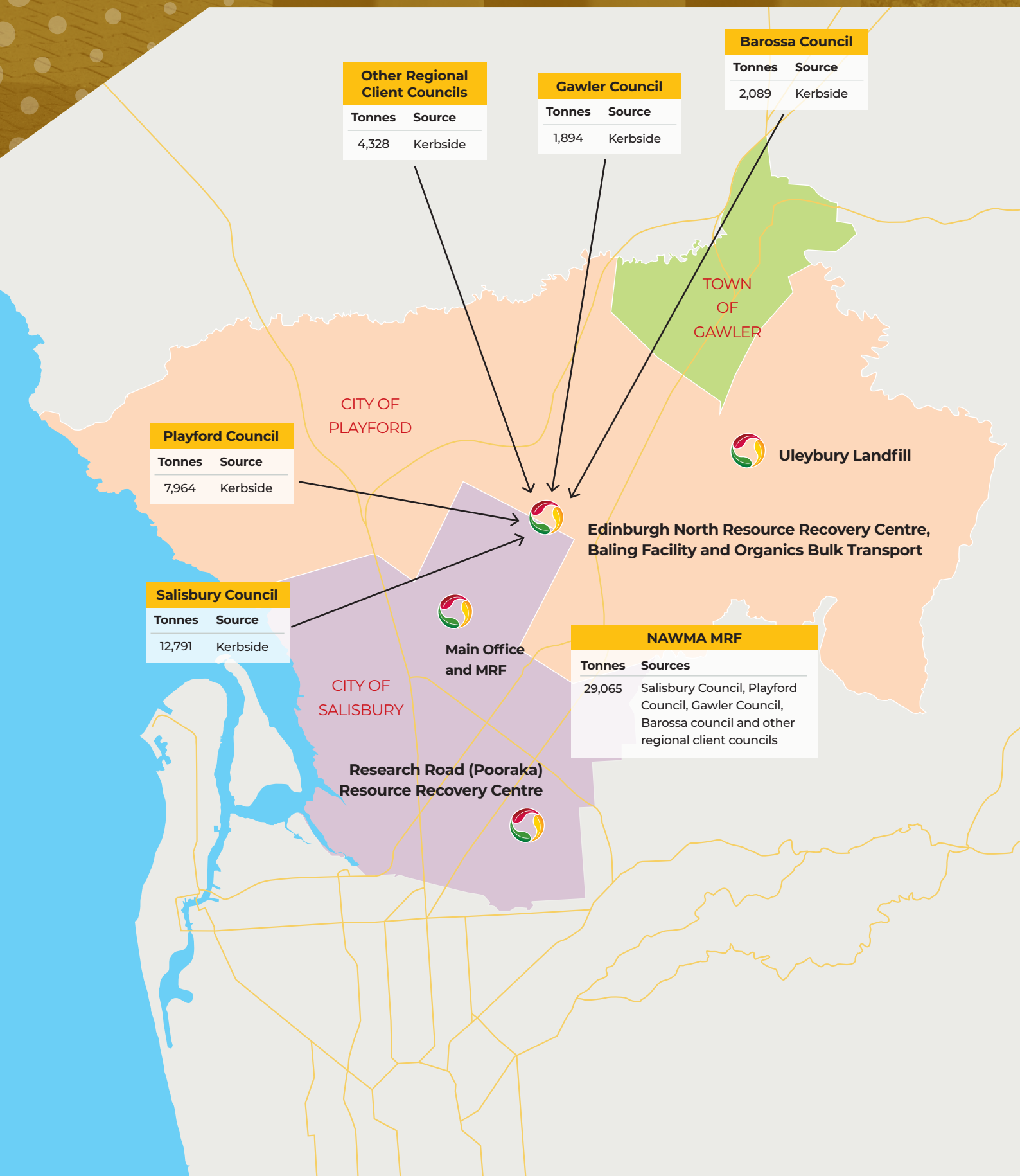
NAWMA Material Flow of Residual Waste to Alternative Fuels Facility



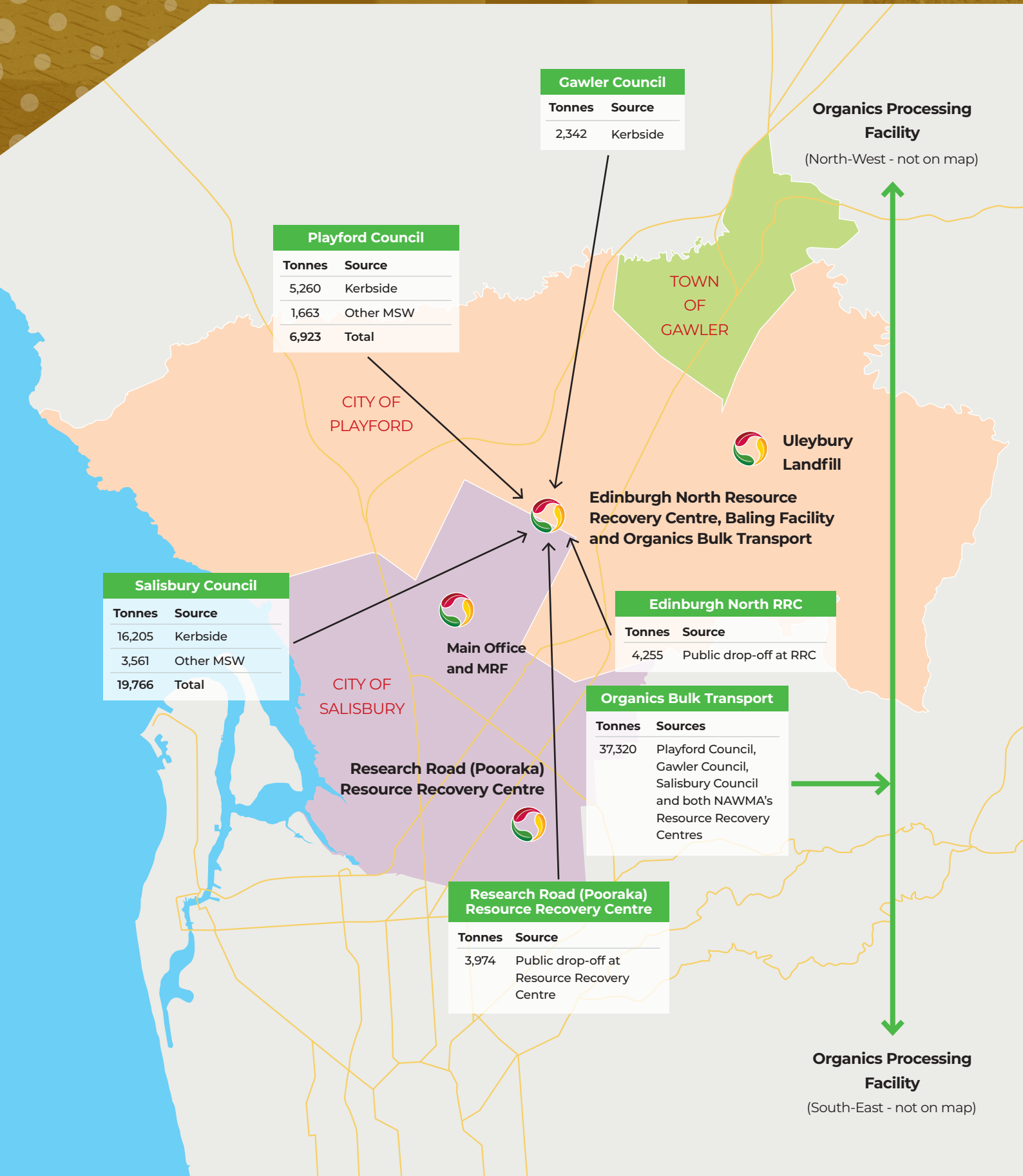
NAWMA Material Flow of Residual Waste to Landfill



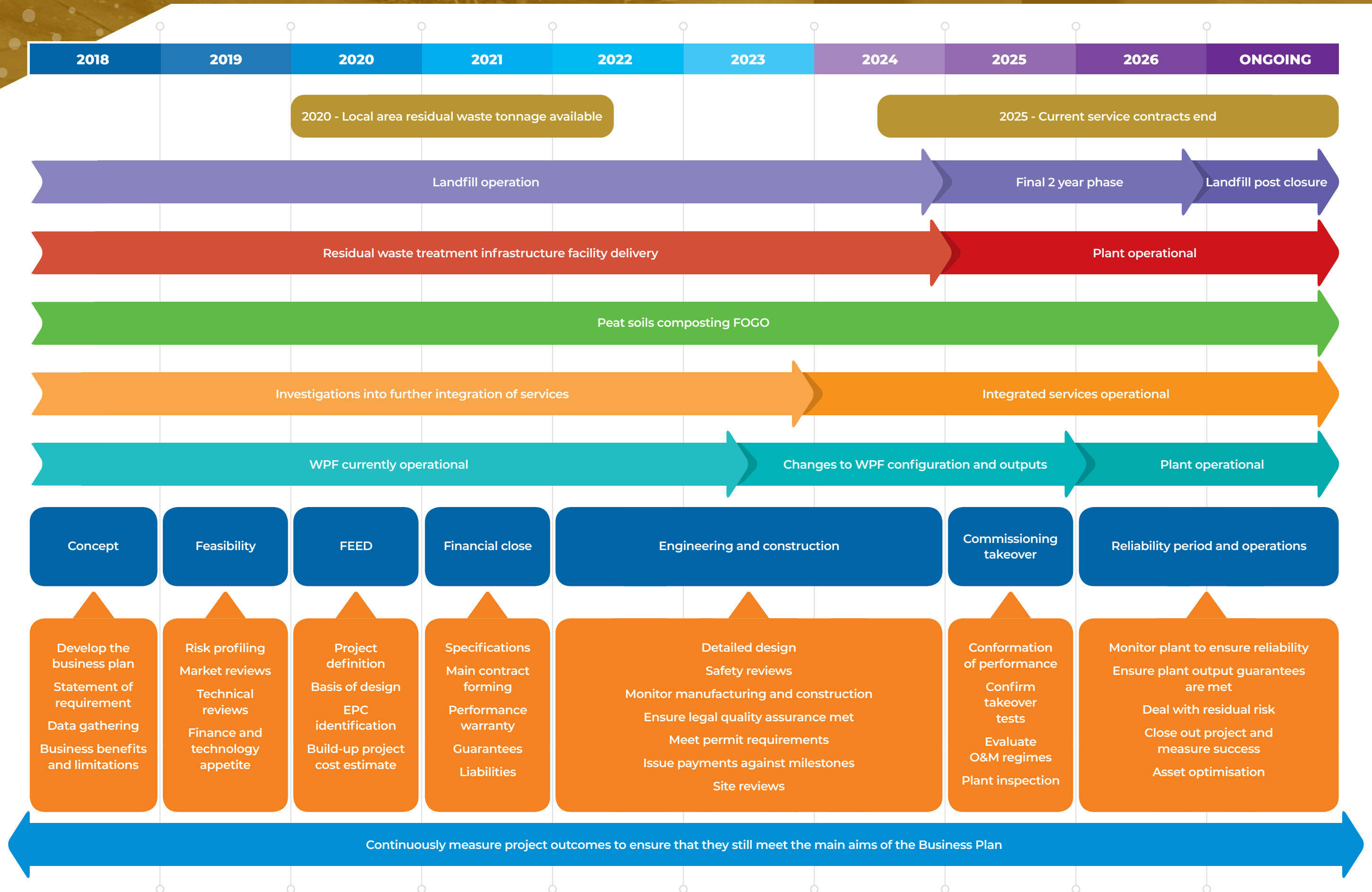
NAWMA Material Flow of Household Recycling



NAWMA Organics Material Flow



Roadmap to Successful Project Delivery



NAWMA are taking
leadership on renewables
with an Australia-first
investment in a combined
solar methane energy plant.





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