Brimbank Resource Recovery 2.0 Feasibility Study Final Report

Prepared For:

Brimbank City Council

Prepared By:

SRU Sustainable Resource Use

Report Title:	**Brimbank Resource Recovery 2.0 Feasibility Study Final Report**
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1. Project Objectives

1.1. Background

The purpose of this feasibility study is to assess the viability of establishing a Resource Recovery Centre and Circular Economy Centre in Brimbank alongside Part B providing preliminary advice on the possible relocation of the Stanford Street Operations Centre and a shed structure.

Sunshine Energy Park (Energy Park) is a 44ha site in Council ownership and is a former basalt quarry that subsequently operated as a series of landfills from 1960s to 1980s. Energy Park sits alongside other former landfills including Carrington Reserve. Combined, the landfills accepted solid and liquid waste from municipal and industrial sources across metropolitan Melbourne. All landfilling has now ceased, and the site has been zoned in the majority for Public Park and Recreation Uses.

The site includes some of the following features:

• A large, mounded area of land which has recently been remediated (including capping and tree planting).

• Sections utilised for buildings and structures relating to Sporting Clubs who lease land from Council.

• A former power station with like infrastructure. Set up to capture landfill gas and turn it into electricity.

This area of land is known as the Hulett Street closed landfill.

1.2. Scope

This Feasibility Study has assessed the possibility and practicality of developing a new Resource Recovery Centre at Sunshine Energy Park (Part A). Specifically, Part A explored and assessed whether the Hulett Street closed landfill site, including the option for utilising the decommissioned power station building, is suitable for the development of a Resource Recovery Centre and Circular Economy Centre.

Across urban and regional areas there are major gaps in the provision of recycling opportunities. In cities there is a lack of convenient drop off locations for a range of products and bulky packaging for recycling. This results in poor recovery for both recycling and reuse and high levels of dumped rubbish. There is a need for drop off centres for use by households and small businesses.

The most important influences on recycling outcomes are:

- Convenience
- Consistency
- Clarity

At the present time there is no consistency in where drop off centres are located, what materials they cover, and how they are set up and serviced. Local government has the primary responsibility for waste services for households. Various industry players are also accepting a degree of extended producer responsibility for the material they put out into the community.

This feasibility study will provide an assessment for Council with a view to providing funding support for the initial site establishment covering design, development, and implementation. The council, together with State government and product stewardship schemes, would then provide the ongoing funding for contracted operation of the site (or operate the sites themselves). Industry funding would be in the form of product levies for collected

products/materials. These include e-waste, tyres, beverage containers, batteries, phones, mattresses. This would be extended to other products in time.

1.3. Alignment with Council objectives and strategies

To be added

2. The Sunshine Energy Park site

2.1. Broad site features

The site is in an area surrounded by light industry with access from Ballarat Road via Hulett Street. It is located towards the centre of the larger Energy Park zone. The site is flat and surrounded by a chain mesh fence. It has a paved road leading into the site. The fenced area measures approx.100m x 48m excluding Hulett Street. These site dimensions provide great scope for a resource recovery centre that has a broad focus on all aspects of reuse, repair and recycling. The flat site is ideal for locating a centre that can handle a comprehensive range of materials and products and a strong level of visitors to the site. To expand the scope of a centre from recycling drop off to the range of reuse and repair activity will require a car park and the site can accommodate this while also keeping site visitors away from equipment and truck loading and unloading activity. Many councils, when considering such a facility would find it difficult to identify a site of this size in a centrally located area.

2.2. The existing building

The building is a substantial former power station that measures 30 metres in length and 15 metres in width. The building is tall and comprises an inner second level at the northern end covering a third of the internal space. The building has been significantly vandalized, including the removal of all electrical and fire services. Despite this its overall structural integrity appears to remain sound. This will need to be assessed through a detailed engineering report. As the overall structure is deemed suitable and sound, the cost of remediating the damaged aspects should be significantly below a new building construction cost. The layout of the building is also deemed suitable with broad access on the western side, a large door on the eastern side for offtake, and a two level area at the Northern end of the site for community interaction and education, combined with site management space.

2.3. Parking for reuse

There is significant space at the northern end of the building up to the existing fence line for the establishment of a carpark. This will be for those leaving their vehicle to enter the reuse space. Parking provision further to the North would require significant excavation. Car parking spaces will need to meet specifications in both dimension and tree cover compliant with Council strategy for tree cover. The provision of carparking will be important as most visitors to the site are expected to arrive in vehicles. For handling products for reuse and for repair/refurbishment, patrons will need to park and carry products to the building. It is anticipated that provision of 18-20 car park spaces will prove adequate for most periods. There is the potential for larger visitor numbers to exceed this on weekends and at seasonal times and it is therefore proposed to allocate further carparking provision along the Eastern fence line of the Centre. This could be accessed from the Northern end carpark. Some of this additional carparking could be aggregate based rather than a sealed surface. There may be a synergy with the adjoining parks depot where carparking usage will mostly be on weekdays, allowing spaces available at weekends.

2.4. Drive through for quick recycling

Many visitors to the site will be seeking to drop off products and materials for recycling. This is best done through a series of marked drop off bays. This area will be only for unloading and those parking to enter the site will proceed to the car park at the North of the site. The range of materials received will be extensive and a number of bays are envisaged along the Western side of the building. Cars will be met by a staff member who will advise on where to place items. Care will be made to ensure that maneuvering of cars and people is undertaken in a safe manner. For some products this will be best with vehicles stopping next to a series of well-marked skips. For some larger items, there will need to be the opportunity for vehicles and trailers to back into the unloading point. This drop off area will be totally separate from public carpark areas and truck loading areas. There will need to be a guard rail between the drop off

area and the Hulett Street through traffic. While the space is tight along the Western side of the building, it is deemed practical for the drive through drop off location. Traffic speeds on the site will need to be low (15kmh) to allow safe vehicle maneuvering and pedestrian safety in line with council's Creating Streets for People policy. The existing trees adjacent to the entrance to the site could be saved by widening Hulett street after this point.

2.5. Signage from Ballarat Road and on site

Directions to the Resource Recovery Centre will be required in Ballarat Road as vehicles approach Hulett Street from both the west and the east. Signage at the corner should indicate the direction to the facility and the opening times. Along Hulett Street there is opportunity for signage to provide information regarding activity at each zone of the facility. This will ensure that as vehicles reach the site entry, they are aware of their site visit options. On the site, signage will play an important role in ensuring materials are handled at the correct area. The area for trucks to enter and collect recyclables for offsite processing will be clearly marked and controlled by a boom gate to prevent public entry. The public parking area will be accessible for the public without entering the drop off zone for recycling.

2.6. Allowance for road extension

In plans for the Energy Park, it is proposed that Hulett Street, currently a dead end, will be connected to Carrington Drive across the top of the existing go kart track. This will mean the Resource Recovery Centre will need to allow for traffic along the Western fence line of the site. This has been assessed as part of the study and found practical as long as a reduced speed limit applies in this zone past the Centre. There will need to be physical separation between cars travelling along Hulett street and those parked and unloading at the recycling centre

3. Driving Resource Recovery

3.1. Aggregation for offsite transfer

Much of the material and products brought to the site will need to be aggregated, compacted and then transferred to a reprocessing site where recycling will occur. Materials such as paper and cardboard, ferrous and nonferrous metals, masonry materials, glass, and plastics will all need to be collected from the facility for recycling. In many cases this recycling activity will be undertaken in the local area. Partners such as SimsMetal, Norstar, Visy Packaging, Visy Glass, APR and Alex Fraser are all operating large scale reprocessing plants in or around Brimbank. While the site will be structured to allow a level of stockpiling, every effort should be made to keep inventories of key materials for recycling as low as practical. The EPA has guidance on stockpiling limits, particularly for flammable materials. It is not envisaged that the Centre would need to hold significant amounts of material on site. This would largely be linked to collection vehicle capacity and would fall well below any limits causing regulatory concern.

Council already operates a resource recovery centre at Keilor Park. It operates for recycling only, except a clothing charity bin. The range of materials and products are more limited compared to the proposed scope of the new Centre. It covers paint, batteries, paper and cardboard, motor oil, gas cylinders and e-waste. The listing of recommended materials and products in 5.1 includes each of these plus an additional range totaling over 40 material streams.

Among the range of existing resource recovery centres, the standout example of an extensive range of products for collection is the facility operated by City of Yarra at Clifton Hill. It provides a drop off for a range of over 25 different materials and products. It is space constrained and can therefore not offer any reuse opportunities except clothing.

3.2. Repair activity

The resource recovery facility offers a strong opportunity to promote and facilitate repair activity to keep products in use. While there are isolated opportunities for repair of some products, there is no widely recognised pathways to maximise this activity. The Centre can operate as a central point for promotion and implementation of repair. This repair activity can vary from clothing, electrical and electronics through to bikes and furniture. Often a minor problem with a product can result in an end of life outcome and increased waste. For clothing, something as simple as a button or seam failure can lead to disposal without the skill or opportunity to repair. Similar examples exist for electrical appliances, mowers, bikes and a host of furniture.

There is now a global emphasis on repair and the role it can play in reducing the downward trajectory in product life. The facility could offer skills training in repair, and also a repair service for a broad range of products. There is also a strong social benefit from repair through the social contact and upskilling, and also through improved affordability for life's basics. It will be important to liaise with community organisations to identify the scope of repair activity that can be undertaken and the feasible structure of this.

Australians buy more bikes each year than cars but many fall into disuse due to minor issues. There are a number of repair and refurbishment entities for bikes that address the buy, use, dispose linear approach and keep resource in use. Good examples of repair for bikes include the Footscray Community bike hub, The Bike Shed at Ceres in Brunswick, and Revolve Recycling in Sydney. Some shopping centres also offer garment repair facilities. Sometimes the failure to repair is based on not knowing where to take the product. The educational role of the Centre will need to address this by listing the range of repair activity at the site, or at other locations.

3.3. Resale of product

Many citizens have goods they no longer want or need but would be pleased to transfer these to others. Alongside charities that facilitate this, the Resource Recovery Centre would be a major contributor to the resale of products back into the community. It may be that alongside the resale of products at the site, partnerships can be established with charities to channel goods into their secondhand retail outlets.

The reuse arrangements may differ for each product. For clothing the donation of clothing is likely to far exceed what could be sold on site. It would be best for this to be systematically sorted and wearable clothing then channeled into retail sites or brought back to the Centre for selected sales.

For some other products and materials, the facility could be the primary outlet for products to find a new owner. This can be linked to repair activity through services such as test and tag assessment of electrical goods. Even building materials can benefit from the centre acting as a transfer centre. A citizen may come and drop off clothes, a coffee machine and a refrigerator and purchase a refurbished mower, a BBQ and two dozen brick pavers. There will be some regulatory requirements for sale of some goods, such as electrical testing, but these should not represent a significant challenge to operation.

The revenue derived from reuse activity for some products can be significant. This revenue could contribute to offsetting staffing and operating costs. Estimating the scale of this revenue is not possible at this time. It is the case that reuse usually derives a much higher per tonne revenue than recycling of the same product. The table outlining the products that generate a revenue from recycling can provide some proxy for where reuse revenue will be derived.

Clothing is a good example of strong revenue for reuse. While recycling of clothing is marginal, requiring a gate fee for processing, sorting and resale of clothing can yield revenue as high as $10,000 per tonne.

By having the resale area adjacent to the car park it will allow the public to spend time browsing and purchasing and will facilitate loading of purchased goods to their vehicle.

4. Options for the Facility Operation

4.1. Brimbank residents only

One option is for the facility to operate just for the use of Brimbank residents. This is a practice used by some councils on the basis that it is funded fully by council and should therefore only be for the use of residents. Another view is that the activity is contributing a community social and environmental benefit and that this should be extended as far as possible.

To facilitate this, the centre should be open to all and correspondingly, the funding of the facility should extend beyond Council. This could include state government recognition of its regional benefit. It can also come through industry support from product stewardship schemes related to each product. It should be noted that many of the products and materials handled through the site will be income generating, and that increasing the volumes of these delivers both environmental and economic benefit. The physical task of requiring all site visitors to provide rate notices on arrival is also something that should be avoided if possible.

4.2. Business access

A decision will need to be made on whether use of the site is limited to private individuals or can be extended to businesses. To a degree this can only be restricted through either a maximum vehicle size or a maximum load allowed. For safety and practicality, it is recommended that the site have a maximum vehicle size for entry. This will preclude loads being processed through the site that should flow directly to a recycling facility. It also This could include retail traders dropping cardboard or other packaging. It could also prevent excess products, from clothing to electronics to books from being dumped. A strong argument for broader access is to encourage and facilitate reuse and recycling by small businesses. It is often the plea from businesses that as ratepayers, they are restricted in the services provide by council. By allowing businesses to utilise the site this sentiment is offset. In addition, the range of

materials provided by businesses is likely to align with the higher revenue material streams. This includes cardboard, glass and metals.

4.3. Including organics?

Ideally, the acceptance of garden organic material on site would be a significant contributor to waste reduction and resource capture. If not included, then a higher level of organic waste will end up in landfill with climate change impacts. It has been shown to be practical to receive clean loads of garden organics at similar sites. If included, garden organics is likely to be the highest quantity material through the site and could be seen as duplicating green bin services provided to households. The council will need to make a threshold decision on whether garden organics are allowed at the site. This will include assessing any impacts on future uses and amenity at the broader Energy Park. The acceptance of organics will also need to be reviewed from a regulatory compliance perspective. Many resource recovery sites do accept organics. The Moonee Valley site is a good example. Some that are space constrained or near residential areas do not. The Yarra Council site in Clifton Hill excludes organics.

Garden organics can present an odour issue if not handled correctly. It is recommended that branch material be kept separate from soft and wet organic material. This would allow this harder fraction to be chipped on site, in collaboration with council parks operations and taken off site by residents as mulch material. The softer fraction will need to be processed through a regional composting facility to avoid weed and pathogen spread and odour issues. This will incur a significant per tonne cost. The large scale of the site would allow for organics to be included but a specific plan for its handling will be required. It may be best for soft organics to be placed in a static compactor to allow transfer to a processing facility with only a minimised odour impact. Reducing the time organics are held on site will also deal with odour control. There should be no stockpiling of soft organics on site. The site must have a strict exclusion of food organics to avoid odour.

4.4. Operator- council or other

It is assumed that Council would retain the overall management of the site. It would be possible for some significant aspects of site operation to be contracted to other commercial or not for profit operators. Examples of contracting partners are:

- An organisation such as SCR Recycling could operate the sorting and reuse/recycling of product dropped at the site.
- The repair and refurbishment activities could be contracted to a community-based organisation
- The operation of a café on site could be fully contracted
- The community education role could be contracted to a specialist provider

Assisted employment operators such as Outlook Australia have played important roles at resource recovery sites in Mornington, Melton and Hampton Park. At some sites specific functions are provided either by for profit, or not for profit partners. This includes the sorting and sale of reuse items and repair activity. The identification of possible partners and any subcontracting arrangements will require major attention at the time of site development.

4.5. Cost free recycling reuse

The range of products and materials handled through the facility will vary in value. Some will be significant income generating while others will incur an overall operating cost. There is a threshold question of whether a gate fee should be applied for some or all site use.

A general principle is that reuse, and recycling activity should be encouraged, and no economic impediment be placed on this. This shifts the cost of operations to an all of community method rather than a user pays approach. Wherever possible waste disposal should be charged to the generator, but this site will be structured to not include any waste

generation. The cost of administering a charge and its impediment to use means it is recommended that the site operate on a cost free basis for reuse and recycling drop off.

Sites such as the Clifton Hill resource Recovery centre have no charge for users. The cost of operating the site is covered partly by the revenue derived from the received and sold materials and products. Further funding from the council is from across the community rather than being charged against the recycler. The proportion of site cost recovery from sale of goods will vary according to the relative volumes of each material and its sale value. A site that has a high degree of reuse and recycling of valued materials such a metals, and cardboard, will derive more revenue than one collecting larger proportions of garden organics, timber, tyres and mattresses.

There can be charges applied to sale of products and materials back into the community. This can span everything from service charge for repair, to sale of refurbished goods, and charge for processed mulch. Much of the revenue from the site will come from the transfer of recyclable materials to major recyclers. Streams such as paper and cardboard, metals, glass, plastics, clothing, will all generate income from material taken from the site in large quantities.

The cost of establishing the site is difficult to estimate. Once a detailed review of the building repair and modifications is undertaken, the establishment phase costing will be more able to be estimated more accurately.

The operating costs will link closely to how much of the operation of the site will be through council staffing and what community organisation activity will be undertaken. While the site is likely to generate significant revenue from sale of material and products for reuse and recycling, it is not expected that this revenue will cover all site operation.

4.6. Educational role

The site will contribute to community sustainability by introducing all site visitors to the wide extent of practical resource recovery activity. A citizen coming to the site to drop cardboard will encounter an appliance repair option or see that they can bring a disused gas cylinder for recycling. This will have an ever increasing educational impact and result in a broader practice of circular economy thinking and action.

In addition to this general community educational role, the site lends itself to formal school based educational opportunities. It will be possible for school groups to visit the site and gain an understanding of the scope of repair, refurbishment, reuse and recycling activity. It is proposed that the rooms upstairs in the building would be used as a viewing platform so that school groups and others can gain a bird's eye view of reuse and recycling receival, sorting and compaction. This can assist in improving household recycling practices through better insights into contamination control and the technologies and scale of different reuse and recycling practices. It has been shown that visits to recycling facilities such as MRF's increases the communities understanding of the scope of waste reduction and motivates their involvement.

For many this will be their first exposure to activities such as recyclables sorting, appliance safety testing, or garment repair. As well as physical site visits, the centre offers the opportunity to generate multimedia material for broader community educational use.

4.7. Staffing

An operation such as this will require staffing across a diverse range of activities. It is anticipated that the facility would operate in business hours and on weekends. There will be a need for a staff member to control the drop off of products and materials for reuse and for recycling. This activity will be located on the western side of the building and this staff member will assist all to place products and materials in the correct skips or other media. They can help to ensure vehicle flow into and out of the drop off zone is conducted safely.

A second staffing requirement will be for transfer of full skips and bins from the receival area to where it is either processed on site or prepared for off site transfer. This will include operation of compaction equipment and possible use of a forklift for transfer. The scale of throughput will dictate if a single person or more than one staff member is required for this role.

A staff member will be required to coordinate the reuse, refurbishment and repair aspects of the facility. Depending on the scale of activity and number of contracting partners, this role may need to be split between sales of secondhand goods and repair/refurbish activity.

A dedicated staffing resource should be provided for community education. This can encompass school based site education, general community education and preparation of material for use beyond the site.

The facility will need overall site management and a dedicated site manager will be required. This role would include managing commercial aspects, community involvement on site and staff supervision and care. There will be a further need for administrative staffing to manage sales revenue, including the transfer of recyclable material to partner organisations.

The site will need to be kept clean and secured at the end of each operating day. A staffing allocation will be needed for this. It is anticipated that the site will operate on a seven day basis and therefore roles will need to be structured to match this need with compliant working arrangements. A site such as this does offer opportunities for some assisted employment. It can also be a site for training and schools based work experience.

Once decisions are made about the overall scope of the facility (hours of opening, degree of contracting, range of users and materials accepted), it will be possible to estimate total staffing requirements more precisely.

4.8. Renewable energy

The site will sit centrally within the Energy Park and therefore every effort should be made to incorporate renewable energy sourcing into site operation. There are several possible opportunities for this, First, the site could utilise any solar energy generated at other locations within the Energy Park. Second the building roof lends itself to the location of a significant solar array that can feed into site use and onsite storage in a battery system. This battery could be a shared resource with the Parks depot as the roofing at the depot will be extensive and the energy use potentially higher at the Resource Recovery Centre.

As the site is surrounded by former landfills, it may be possible to utilise any landfill gas as an energy source. The feasibility of this is beyond the scope of this study. The former use of the building as an energy generating site can possibly be a feature of its identity. The 'recycling' of the building into a resource recovery facility also offers the opportunity to tell the story of optimal resource use. The synergies with the co-location of the Parks depot also can contribute to a narrative of efficient use of resources (shared equipment, maintenance, and combined management of organics in a low carbon manner).

4.9. Project partners

These may include:

- Charitable Recycling Australia and member charities- clothing, furniture and household item reuse
- Sims Metal Management- metals recycling
- Norstar- metals recycling
- Pact Group- plastics recycling
- GT Recycling- plastics recycling
- APR- paper, cardboard and plastics recycling

- Soft Landing- Mattresses
- Visy- paper and cardboard recycling
- Visy Glass- glass packaging recycling
- MRI- Electronics and electrical
- Garden City Planters- plant packaging
- Bicycles for Humanity
- Storycycle-Children's books
- Product stewardship bodies
    - Australian Packaging Covenant Organisation
    - Mobile Muster
    - Battery Stewardship Council
    - Clothing Stewardship Scheme
    - Paintback
    - Product stewardship for oil
    - Recycle My Mattress
    - Save Our Soles
    - Tyre Stewardship Australia
    - National Television and Computer Recycling Scheme
    - Fluoro cycle program
    - Plant pot recycling

4.10. What won't be received at the Centre

The Resource Recovery Centre will need to operate a strict defining on the range of products and materials to be accepted on site. The site is not proposed as a transfer station and therefore will not receive waste. Waste will be defined by the extensive list of accepted products and materials. In all council publications and sites, the exclusion of waste will be important. Signage at the entry to the site will also need to reinforce

this. The range of materials accepted will be very extensive and therefore the range of excluded material will be reduced.

Waste disposal will need to occur at other sites operated by the private sector. Details of alternative sites for waste disposal will need to be provided at the Centre to ensure correct disposal. This system has worked very effectively at other sites, including the Clifton Hill recycling depot operated by Yarra City Council. The excluded materials would include chemicals and flammable liquids. It is recommended that used motor oil and paint are the only liquids received at the site. The centre will also need to exclude mixed building rubble, soils, and food organics. Regulation by EPA will dictate some of the materials that need to be excluded from the site. This will primarily be based on hazard, including fire risk. The community very quickly gets to understand the range of accepted and not accepted materials for such a site.

5. Resource Recovery Centre Product Profile

5.1. The range of products and materials

The following list covers the range of products and materials that can and should be a focus for the Resource Recovery Centre. Some of these are targeted for reuse and others will have only a recycling pathway.

Importantly there are end market outlets for all of these. In some cases, there is revenue that will be derived from the collection of the material. For others the collection and diversion will either be cost neutral, or a charge will apply for its reprocessing. Overall, the revenue raised from the sale of material for reuse or resale will likely contribute to the aggregate cost. The range of materials collected could be structured to maximise financial returns or to maximise waste and litter diversion. The range of revenues and costs for each stream will need to be assessed at the establishment stage as material values do fluctuate.

The indication of cost or revenue needs to be matched against the anticipated scale of volume. It is noted that some of the highest volume materials are revenue generating. This includes metals, cardboard, clothing, and rigid plastics.

Product	Reuse	Recycling	Ind. Revenue/cost	Relevant partners	Volume Scale	Container
Clothing	Yes		Revenue	Major charities	Large	
Manchester	Yes	Yes	Neutral	Major charities	Medium	
Furniture	Yes		Neutral	Major charities	Large	

Mattresses	Yes	Yes	Cost	Major charities	Large	
Bikes	Yes	Yes	Neutral	Bicycles for Humanity	Large	
Sports equipment	Yes		Neutral	Major charities	Medium	
Audio and visual media	Yes	Yes	Neutral	Major charities	Small	
Gas cylinders	Yes	Yes	Neutral	Gas cylinder industry	Small	
Tools	Yes	Yes	Neutral	Tool Libraries	Small	
Toys and games	Yes		Neutral	Major charities	Medium	
General Books	Yes	Yes	Neutral	Brotherhood books	Medium	
Children's books	Yes	Yes	Neutral	Storycycle	Small	
Electrical appliances	Yes	Yes	Cost	Major charities/ recyclers	Medium	
Electronic equipment	Yes	Yes	Neutral	Major charities/ recyclers	Medium	
Phones	Yes	Yes	Neutral	Major charities	Small	
School uniforms	Yes		Neutral		Small	
Exercise equip.	Yes				Medium	

Soft furnishings	Yes				Small	
Outdoor furniture/BBQ	Yes	Yes			Medium	
Plant pots	Yes	Yes	Revenue	Garden City Plastics	Medium	
Stationery	Yes	Yes		Green Collect	Small	
Footwear	Yes		Neutral		Medium	
Power tools	Yes	Yes	Neutral		Small	
Cardboard		Yes	Revenue	Paper manufacturing industry	Large	
Paper		Yes	Revenue	Paper manufacturers	Large	
Rigid plastic pack,		Yes	Neutral	Plastic recycling industry	Medium	
Other rigid plastics		Yes	Neutral	Plastic recycling industry	Medium	
Glass packaging		Yes	Revenue	Glass packaging industry	Medium	
Steel packaging		Yes	Revenue	Metal recycling industry	Small	
Aluminium packaging		Yes	Revenue	Metal recycling industry	Small	

Soft plastic packaging		Yes	Cost	Plastic recycling industry	Medium	
Batteries		Yes	Neutral	Aust Battery Recycling Initiative	Small	
Tyres		Yes	Cost	Tyre Stewardship Australia	Large	
Drums and containers		Yes	Neutral	Drum Muster/recyclers	Medium	
Paint		Yes	Neutral	Paint Back	Medium	
Motor oil		Yes	Neutral	PS scheme for Oil	Medium	
X rays		Yes	Neutral		Small	
Bike tyres		Yes	Neutral		Small	
Lighting		Yes			Medium	
Polystyrene pack.		Yes			Medium	
Garden organics		Yes	Cost		Large	
Metals		Yes	Revenue		Large	

The inclusion of a product or material for reuse and/or recycling will be constantly reviewed to ensure all collected resources have a downstream application and do not result in either excessive stockpiling or dumping.

5.2. A Case Study

There are over 450 million plant pots used in Australia each year. This amounts to 15,600 tonnes of plastic. The overwhelming majority (over 95%) are made from polypropylene, a readily recyclable material. Garden City Plastics, Australia's largest pot producer can collect pots free of charge for recycling back into new pots through their partner business Polymer Processors. The challenge is to get the pots back from the 10 million households across the country efficiently. The Resource Recovery Centre will be an opportunity to aggregate a significant quantity of pots for collection.

Additionally, there is an opportunity to have the pots available for reuse by other citizens. This system works very well at CERES Environmental Park. The cage where pots are deposited by the community rises and falls as supply and demand fluctuates seasonally. There is a recycling option underpinning the collection supply exceeds demand for pot reuse. A number of other sites allow the community to take pots for reuse either free of charge or a modest charge. The polymer Processors collection can underpin any system where supply exceeds community demand.

6. Scheme Challenges and Opportunities

6.1. Base for community organisations

There are a range of community groups with a focus on a particular aspect of resource recovery. This centre offers the opportunity to work with community organisations for the fulfilment of mutual goals. This could take several forms.

First, community organisations could be based at the site and conduct operations there. Second, the site could act as a collection point or sales point for the products they are focusing on. Finally, the site may allow a central location for them to conduct activities from meetings to community interface. Examples are bike refurbishment charities, repair groups, men's shed.

Outlook Australia operates reuse activity at a number of sites. Bike repair services also operate at sites such as CERES. One of the keys to successful partnering is to be clear on the role and responsibility for a partnering organisation. For example, a charity may wish to offtake clothing from the site or may wish to establish a sorting, repairing and sales outlet at the site.

One of the challenges to this community partnering approach is the increased number of people on site and dealing with multiple areas of operation for each organisation. Very clear contractual arrangements at commencement can assist in avoiding difficulties during operation. These arrangements should include designation of operating areas, regular reporting of activity, adherence to site safety, and clarity around the scope of group activity.

6.2. Separation of pedestrians and vehicles

The operation of this site will involve large volumes of people, cars and heavy vehicles. Keeping separation of pedestrian flows from trucks and cars will need to be a high priority and be well planned and managed. For this reason, the site is proposed to be operated with three zones. The first will have no public access and will allow trucks to collect sorted recyclables in a

pedestrian free environment. This will be controlled by a boom gate system to strictly control access.

The second zone on the Western side of the building adjacent to Hulett Street, will be for drop off and will require strict limits on pedestrian movement with cars entering and leaving this zone regularly.

The final zone at the North of the site will include a low speed car park and separated pedestrian walking and dwelling areas. There will be clear markings and separation in this zone to keep car and pedestrian movement safe. It is proposed that a 15 kmh speed limit be observed across the whole site. Line marking will show pedestrian zones and wherever possible these will be protected by bollards. By taking the larger collection vehicles away from public areas at the entrance of the site, there will be a reduced risk of incident. The main public pedestrian zones at the North of the site will be away from any car or truck movement. The accompanying design diagram shows the public areas and the public exclusion areas. It shows any handling of materials in skips, forklifts or trucks will be in areas away from public access. To achieve safe car movements around the Centre, the speed limit on Hulett Street will need to be reduced further south of the Centre. This is envisaged to be the case as the broader Energy Park is developed.

6.3. Government partnership

While the site would be integrated into the Council controlled Energy Park, it can be recognised as a regionally significant site. The scale of the site lends itself to a broad regional use with a primary catchment of Brimbank and a secondary catchment from surrounding municipalities. This would allow financial and other partnering arrangements with other councils and state and Federal government. The Centre will represent a model for replication in other regions nationally and as such can claim financial support from the state and federal government. It is proposed

to operate taking resources from a wider regional area and providing these resources back into the community as either reuse items or recyclable resources.

Brimbank is well located with a range of key recycling facilities in or around the municipality. There is more recycling tonnage processed in this immediate area than any other area in Australia. It will be important for the State and Federal governments to recognise the regional importance of the site and partner with the Council in operation of a nation leading initiative. The Recycling Modernisation Fund is one current avenue for substantial funding of the facility.

6.4. Need for fencing and locking

The site will contain many products, materials and equipment of value. Accordingly, it will require a high level of security during operating hours, and while the centre is closed. It is proposed that a perimeter fence remain in place around the Northern, Eastern and Southern boundaries of the site. This fence should also be constructed to capture any litter from the site. Litter is not seen as a major issue but regular recovery of windborne litter from the perimeters will ensure the Centre meets the ambiance of the broader Energy Park site. There is not likely to be any significant noise emanating from the site beyond moderate business hour truck movements and possible branch chipping

Along the Western edge of the site a fence will be required in line with the main building. This will allow public use of Hulett Street at all times. A Boom gate is proposed where collection trucks will enter the site from Hulett Street. This will prevent public vehicles from entering the collection zone while allowing access for collection trucks.

7. Synergies with Depot Staff Relocation

There are a range of synergies that can be achieved by locating the parks depot alongside the Resource Recovery Centre. The first of these is in security. The presence of council staff at the

depot and regularly arriving and leaving the site will create a less isolated Resource Recovery Centre.

The centre will have a range of equipment that will require maintenance and servicing. These may include forklifts, static compactors and chippers. The potential to utilise equipment and skilled staff for this maintenance is of value.

While there will be toilets offices and tearooms at the centre for staff, there may be opportunities to share staff parking and training rooms at the depot site.

The processing of branch material and other garden vegetation is common to both sites. There would be potential synergies for joint processing or for vegetation generated at one site to be dispatched from the other site.

Finally, the staffing at the Resource Recovery Centre will be relatively small and interaction with a broader range of fellow workers is seen as advantageous.

8. Recommendations

1. The use of the Hulett Street site and building for a Resource Recovery Centre is deemed feasible based on the site and building dimensions, condition and location.
2. The Resource Recovery Centre would sit comfortably within the proposed Energy Park and would help to draw residents to the broader Energy Park area
3. The site lends itself to a comprehensive regional facility with extensive reuse and recycling opportunities
4. There are a number of synergies that would be derived by co-locating the Parks Deport adjacent to the Resource Recovery Centre
5. Should Council look favourably on the development of the Resource Recovery Centre, more detailed engineering, land use and financial assessments would be undertaken

including assessing restoration of the site and the building and road infrastructure that would be required.

6. Brimbank Council should share this report with surrounding councils and State Government to advance the discussion around a regional use facility
7. Discussions with potential contractors, partners and product stewardship bodies can be advanced when Council is resolved to proceed