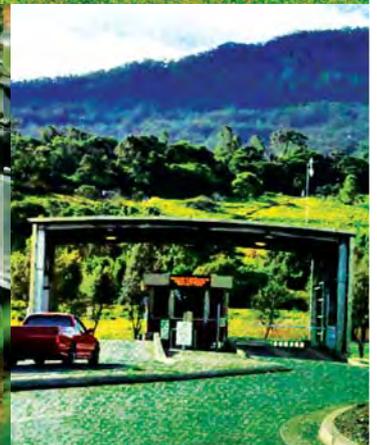
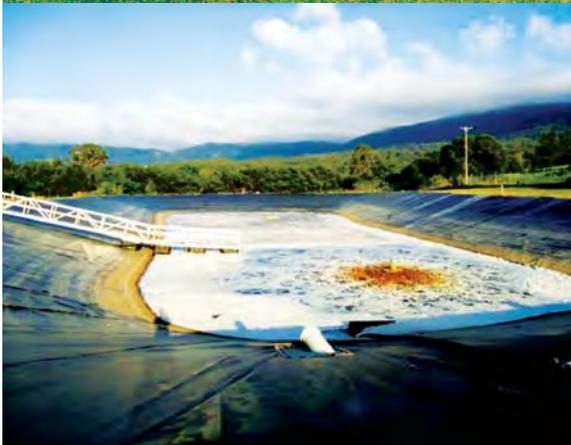


# WOLLONGONG WASTE AND RESOURCE RECOVERY STRATEGY 2022 ACTION PLAN

*From the mountains to the sea*



MANAGING WOLLONGONG'S RESOURCES FOR A  
SUSTAINABLE FUTURE

## WASTE & RESOURCE RECOVERY STRATEGY 2022 ACTION PLAN

Strategic Alignment*	Actions	Objectives	INDICATIVE COST**
<p><b>Focus 1:</b> 1.2, 1.4.</p> <p><b>Focus 2:</b> 2.1, 2.3.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.3.</p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p><b>1.01</b> <b>A) Develop business case for increased recovery of organic resource from domestic waste</b></p> <p>Establish a comprehensive business case for an advanced waste (or other suitable) treatment system that will increase the recycling rate and work toward the WARR Strategy municipal solid waste recycling target of 70%. Business case to include financial, risk and technical analyses.</p> <p><b>B) Increase Recovery of Domestic Resources (Following 1.01 A)</b></p> <p>Establish an expression of interest for an advanced waste or other suitable treatment system that when implemented will increase the recycling rate and work towards the WARR Strategy municipal solid waste recycling target of 70%.</p>	<ul style="list-style-type: none"> <li>Meet State <i>Waste Avoidance and Resource Recovery Strategy 2013-21</i> Municipal Solid Waste targets.</li> <li>Increase rate of material recovery without significant impact on residents.</li> </ul>	<ul style="list-style-type: none"> <li>Contract development \$50K</li> <li>Business case \$75K (1.01A only)</li> <li>EOI development and support \$100K (1.01B only)</li> </ul>
<p><b>Focus 1:</b> 1.2, 1.4.</p> <p><b>Focus 2:</b> 2.1, 2.3.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.3.</p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p><b>1.02</b> <b>Facilitate and implement system selected in Action 1.01</b></p> <p>NOTE: This Action item would be implemented if Action 1.01 results in a suitable and workable proposal. Council will not be obligated to implement a project with unacceptable levels of risk based on Actions within this Action Plan.</p> <p>After relevant Council approvals are received for Action 1.01, complete an implementation program for the system selected including all relevant stakeholder engagement. This will involve four separate steps</p> <ul style="list-style-type: none"> <li>Procurement</li> <li>Project delivery</li> <li>Project commissioning</li> <li>Project operation.</li> </ul> <p>Particulars are to be determined when specific detail on the chosen path in Action 1.01 becomes clear.</p>	<ul style="list-style-type: none"> <li>Ensure all stakeholders are informed, engaged and able to have a say on how the project is implemented.</li> <li>Reduce risk of system misuse.</li> <li>Procure in accordance with relevant Council policy.</li> <li>Minimise risk of system failure.</li> </ul>	<ul style="list-style-type: none"> <li>Procurement project management \$150K</li> <li>Contract development \$350K</li> <li>Supporting audits and information gathering \$150K</li> <li>Services launch, media and advertising \$250K</li> <li>Ongoing education support \$100K pa</li> <li>Ongoing advertising / media \$25K pa</li> <li>Bin stickers and MUD signage \$80K</li> <li>At-source infrastructure to support service \$1-4m</li> <li>Infrastructure design, development and implementation \$5-\$20m (system dependant) or around \$300/tonne</li> </ul> <p>Note, these costs would be ascertained through the process completed in Action 1.01.</p>

\* Please refer to the Wollongong Waste and Resource Recovery Strategy 2022

\*\* Internal estimate only - requires further investigation and assessment

### Information on strategic priorities

High - High contribution to strategic outcomes or may help facilitate other outcomes

Medium (Med) - Moderate contribution to strategic outcomes or may require further development and investigations

Low - Low contribution to strategic outcomes or may need a great deal of further investigation and development

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<p><b>Focus 1:</b> 1.2, 1.4.</p> <p><b>Focus 2:</b> 2.1, 2.3.</p> <p><b>Focus 3:</b> 3.1, 3.2, 3.3.</p> <p><b>Focus 4:</b> 4.1, 4.2.</p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p><b>1.03</b> <b>Hard waste collection service</b></p> <p>Complete a large scale review of the Hard Waste (Household Cleanup) Collection Service, including all relevant stakeholder engagement and statistical analysis. Complete improvement, or other recommendations, if any, including cost benefit analysis.</p> <p>The existing service is contracted to at least July 2021 and therefore system amendments may require contractual variations.</p>	<ul style="list-style-type: none"> <li>Assess the services contribution to resource recovery.</li> <li>Ascertain the state of the market in relation to substitute services, including establishing a conveniently located drop-off centre.</li> <li>Determine if the service fits the expectations of the community.</li> <li>Increase rate of material recovery without significant impact on residents.</li> </ul>	
<p><b>Focus 1:</b> 1.1, 1.2, 1.3, 1.4.</p> <p><b>Focus 2:</b> 2.1, 2.2, 2.3.</p> <p><b>Focus 3:</b> 3.2, 3.3.</p> <p><b>Focus 4:</b> 4.1, 4.2.</p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p><b>1.04</b> <b>Feasibility Study for Resource Recovery Centre Development (existing MRF Site)</b></p> <p>Establish a comprehensive business case for revolve and recycling centre system / operation that when implemented will increase the recovery of resources.</p> <p>The Resource Recovery Centre will potentially accept reusable items that are directly dropped off at the Centre or remote Transfer Station/s, collected through the Household Kerbside Cleanup, or possibly surplus materials from Charity Organisations, Op Shops and Charity Stores.</p> <p>The Revolve Centre could be based on a Social Enterprise Model to provide opportunities for disadvantaged or at-risk groups to become involved in training programs, refurbishment, repair, resale and social programs at the Centre.</p> <p>The hazardous waste disposal component should consider acceptance of a broad range of domestic household products that are identified as being potentially hazardous, susceptible to illegal dumping and / or creating toxicity issues within the landfill or the environment. It is envisaged that materials collected would be temporarily stored on site and removed regularly by a licensed contractor. Many of the listed hazardous wastes may be considered dangerous goods, and it may be difficult to include all these waste types in planning approvals.</p>	<ul style="list-style-type: none"> <li>Increase convenience for the community and facilitate the potential reuse and recovery of materials.</li> <li>Provide participation, training, up-skilling and employment opportunities for unemployed, disadvantage, disabled, youth, CALD and people at risk of isolation or depression in positive resource recovery community based activities.</li> <li>Reinvest revenues from the sale of items back into social enterprise programs.</li> <li>Establish strategic partnerships with organisations to support the centre.</li> <li>Provide readily accessible processing facilities as an alternative to landfill.</li> <li>Ensure appropriate disposal of potentially hazardous waste.</li> <li>Improve WH&amp;S management at the landfill.</li> <li>Reduce the toxicity of materials discarded to landfill.</li> <li>Protect the environment.</li> <li>Reduce illegal dumping.</li> </ul>	<ul style="list-style-type: none"> <li>Design \$75K (design funds to be sought from Waste Less Recycle More grant funding)</li> </ul>

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<p><b>Focus 1:</b> 1.1, 1.2, 1.3, 1.4.</p> <p><b>Focus 2:</b> 2.1, 2.2, 2.3.</p> <p><b>Focus 3:</b> 3.2, 3.3.</p> <p><b>Focus 4:</b> 4.1, 4.2.</p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p><b>1.05</b> <b>Resource Recovery Centre development (existing MRF Site)</b></p> <p>Based on the outcome of 1.04, and following relevant Council approvals, develop a frontline operation to the general public. This site will accept small vehicles and visitors, and provide the following services:</p> <ul style="list-style-type: none"> <li>Hazardous waste acceptance and disposal</li> <li>Reusable goods acceptance and resale (including opportunity for refurbishment workshop)</li> <li>General waste acceptance (transfer to Whytes Gully)</li> <li>Recyclable materials acceptance.</li> </ul> <p>This Action item would be implemented if Action 1.04 results in a suitable and workable proposal. Council will not be obligated to implement a project with unacceptable levels of risk based on Actions within this Action Plan.</p>	<ul style="list-style-type: none"> <li>Increase convenience for the community and facilitate the potential reuse and recovery of materials</li> <li>Provide participation, training, up-skilling and employment opportunities for unemployed, disadvantaged, disabled, youth, CALD and people at risk of isolation or depression in positive resource recovery community based activities.</li> <li>Reinvest revenues from the sale of items back into social enterprise programs.</li> <li>Establish strategic partnerships with organisations to support the centre.</li> <li>Provide readily accessible processing facilities as an alternative to landfill.</li> <li>Ensure appropriate disposal of potentially hazardous waste.</li> <li>Improve WH&amp;S management at the landfill.</li> <li>Reduce the toxicity of materials discarded to landfill.</li> <li>Protect the environment.</li> <li>Reduce illegal dumping.</li> </ul>	<ul style="list-style-type: none"> <li>Procurement project management \$75K</li> <li>Contract development \$100K</li> <li>Construction \$500K (opportunity to receive additional infrastructure funding from Waste Less Recycle More funding)</li> <li>Advertising and media \$100K</li> <li>Promotion and education – ongoing awareness \$20K/year</li> </ul>
<p><b>Focus 1:</b> 1.1, 1.2.</p> <p><b>Focus 3:</b> 3.2, 3.3.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.3, 4.4.</p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p><b>1.06</b> <b>Construction and demolition waste macro environment appraisal and market forces analysis</b></p> <p>Undertake a comprehensive study of the handling (collection, transport, recovery and disposal) of construction and demolition waste in the region, with due consideration of a regional approach to the issue. Include detailed consideration and recommendation/s on how the LGAs in the region should react to the findings of the study.</p>	<ul style="list-style-type: none"> <li>Increase the supply of private sector funded resource recovery capacity.</li> <li>Provide readily accessible processing facilities as an alternative to landfill to the private sector collection service providers.</li> <li>Provide alternative builders waste processing facilities once existing private sector landfills close.</li> <li>Reduce demand for disposal of non-putrescible materials at the Whytes Gully Putrescible Landfill.</li> </ul>	<ul style="list-style-type: none"> <li>Investigation \$50K</li> </ul>

## WASTE & RESOURCE RECOVERY STRATEGY 2022 ACTION PLAN

Strategic Alignment*	Actions	Objectives	INDICATIVE COST**
<p><b>Focus 1:</b> 1.1, 1.2.</p> <p><b>Focus 3:</b> 3.2, 3.3.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.3, 4.4.</p> <p><b>STRATEGIC PRIORITY MED/HIGH</b></p>	<p><b>1.07 Construction and demolition waste strategic direction</b></p> <p>Pending the outcome of Action 1.08, Council should adopt a strategic pathway for delivery of a suitable recommendation for the handling of construction and demolition waste in the region.</p>	<ul style="list-style-type: none"> <li>Reduce the demand for disposal of non-putrescible materials at the Whytes Gully Putrescible Landfill.</li> <li>Ensure that Wollongong's residents have means to dispose of builders waste.</li> <li>Minimise illegal dumping of builders wastes.</li> </ul>	<ul style="list-style-type: none"> <li>Dependant on the outcome of Action 1.05</li> </ul>
<p><b>Focus 1:</b> 1.1, 1.2, 1.3.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.4.</p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p><b>1.08 Provide putrescible landfill capacity at the Wollongong Waste and Resource Recovery Park</b></p> <p>Complete the approvals process and progressively develop a new landfill cell at the Wollongong Waste and Resource Recovery Park which will provide the city with approximately 40 years landfill capacity (under a current technology scenario).</p>	<ul style="list-style-type: none"> <li>Ensure Wollongong continues to have an uninterrupted ability to dispose of municipal and commercial putrescible solid waste streams.</li> <li>Solidify Council's base site to enable strategic improvement opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>\$50M until 2022</li> </ul>
<p><b>Focus 1:</b> 1.1, 1.3.</p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p><b>1.09 Augment / upgrade / replace Leachate Biological Treatment Plant at the Wollongong Waste and Resource Recovery Park</b></p> <p>Improve the leachate management system at Whytes Gully including the existing sequential batch reactor biological treatment plant. The plant is required to alter the chemical composition of the liquid that drains from the landfill and make it suitable for disposal to the sewer system.</p> <p>After bench scale analysis and the resulting concept design, consider a design, build, operate, maintain and transfer ongoing contractual relationship.</p>	<ul style="list-style-type: none"> <li>Maintain the ability of Whytes Gully to function as a waste disposal site.</li> <li>Improve leachate management and cater for all leachate generation and treatment contingencies.</li> <li>Reduce the risk of environmental breaches.</li> </ul>	<ul style="list-style-type: none"> <li>Transactional management including contract development \$250K</li> <li>Bench scale analysis and concept design \$100K</li> <li>Construction \$2M</li> <li>Ongoing operations \$300K pa</li> </ul>

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<p><b>Focus 1:</b> <b>1.1.</b> <b>1.4.</b></p> <p><b>Focus 4:</b> <b>4.1.</b></p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p><b>1.10</b> <b>Establish an ongoing active landfill gas extraction system at the Wollongong Waste and Resource Recovery Park</b></p> <p>Further develop a landfill gas extraction and management system that minimises environmental and safety risks, and addresses climate change and carbon pricing liabilities through the capture and positive treatment of landfill gas. This could include generating green renewable electricity from landfill gas.</p>	<ul style="list-style-type: none"> <li>Establish a business model that best suits the needs and future directions of Wollongong City Council.</li> <li>Minimise the negative environmental effects of landfill gas generated at Whytes Gully.</li> <li>Minimise the impact of a carbon price on customers.</li> <li>Beneficially use the landfill gas for improved environmental outcomes.</li> <li>Establish an ongoing and continuously developing gas extraction system.</li> </ul>	<ul style="list-style-type: none"> <li>Establish a business model \$75K</li> <li>Contract development \$75K</li> <li>Annual income \$100K</li> </ul>
<p><b>Focus 4:</b> <b>4.1.</b></p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p><b>1.11</b> <b>Rehabilitate the Helensburgh Waste Disposal Depot</b></p> <p>Complete best practice environmental rehabilitation of the Helensburgh Waste Disposal Depot site, including ongoing environmental monitoring and stewardship.</p>	<ul style="list-style-type: none"> <li>Minimise the negative environmental effects of the former landfill site.</li> <li>Take responsibility for the remediation of the former commercial facility.</li> <li>Determine long term use of site.</li> </ul>	<ul style="list-style-type: none"> <li>2014/15 \$4M</li> <li>\$50K pa (continuous environmental monitoring and support)</li> </ul>
<p><b>Focus 4:</b> <b>4.1.</b></p> <p><b>STRATEGIC PRIORITY LOW</b></p>	<p><b>1.12</b> <b>Develop future directions for Helensburgh Waste Disposal Depot site post environmental rehabilitation</b></p> <p>Upon receipt of satisfactory analytical results from continuous environmental monitoring completed under Action 1.11 for the site, Council to consider the long term plan for the former Helensburgh tip site. This may include divesting ownership of the site for alternative use.</p>	<ul style="list-style-type: none"> <li>Provide direction for the former landfill site after environmental stability is determined.</li> </ul>	<ul style="list-style-type: none"> <li>Community engagement \$20K</li> <li>Develop and assess future use options \$25K Approvals</li> </ul>

## WASTE & RESOURCE RECOVERY STRATEGY 2022 ACTION PLAN

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<p><b>Focus 2:</b> 2.1, 2.3.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.3, 4.4.</p> <p><b>STRATEGIC PRIORITY MED</b></p>	<p>1.13 <b>Complete review of public place recycling and waste bins to increase resource recovery and reduce litter</b></p> <p>Prepare a comprehensive business case assessment for implementation of a two or three bin public place recycling and waste collection system for Wollongong.</p> <p>Material collected in public place source separation systems is historically known to have high contamination rates, which often results in it going to landfill despite separation and resource recovery attempts. The infrastructure and ongoing operational costs to provide public place recycling should be considered.</p> <p>Historical investigations have shown a low rate of available tonnage for recovery from public bins. It was then decided that the one-off capital cost and significant ongoing operational costs to recover small quantities of material was not a sound investment of Council funds. Moreover, the significant costs may achieve more through another action e.g. a new advanced waste treatment system. On the other hand, Focus 2 provides for creating opportunities for the community to contribute to sustainable waste management, and recycle rather than waste materials.</p>	<ul style="list-style-type: none"> <li>• Maximum resource recovery.</li> <li>• Minimise the cost impost of multiple bin systems for public place litter and waste.</li> <li>• Maximise the efficiency and cost effectiveness of Council provided collection services.</li> <li>• Adopt a value for money service delivery approach.</li> </ul>	<ul style="list-style-type: none"> <li>• Review of existing system and investigation of future directions \$150K</li> <li>• Operating costs to be identified in the review.</li> </ul>

## WASTE & RESOURCE RECOVERY STRATEGY 2022 ACTION PLAN

Strategic* Alignment	Actions	Objectives	INDICATIVE COST**
<p><b>Focus 3:</b> 3.1, 3.2, 3.3.</p> <p><b>Focus 2:</b> 2.2.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.3, 4.4.</p> <p><b>STRATEGIC PRIORITY LOW</b></p>	<p><b>1.14</b> <b>Review the State of the Environment of Charity Waste Generation and Disposal, and develop a Charitable Waste Reduction Strategy</b></p> <p>Engage and connect with regional charity organisations to investigate options to reduce charity waste generation and improve resource recovery. Give consideration to a charity waste reduction incentive scheme where fee exemptions for disposal are capped. Work with charitable organisations to develop a charity waste strategic plan setting obligations for waste minimisation targets.</p> <p>Ensure due consideration is given to a regional approach to the issue. Include detailed recommendation/s on how the region should react to the investigation findings.</p> <p>Work with Charity Organisations who recover and recycle clothing and household items through Clothing Bin Stations and Charity Store Drop-Off points to maximise their effectiveness; assist to grow their markets within and outside the region; share information on opportunities and mechanisms to recycle various materials; assist to educate the public on what charities accept, and establish quality thresholds to assist in managing the current second hand items oversupply issues.</p>	<ul style="list-style-type: none"> <li>• Improve resource recovery potential of recycling charity organisations.</li> <li>• Assist in growing markets for reusable and second hand materials – promotion / education required.</li> <li>• Reduce the amount of materials discarded by recycling charity organisations.</li> <li>• Reduce the incidence of illegal dumping at recycling charity drop-off facilities through promotion and /education.</li> <li>• Increase the supply of private sector funded resource recovery capacity.</li> <li>• Identify and address existing barriers and constraints that the charity sector face.</li> </ul>	<ul style="list-style-type: none"> <li>• Strategy development \$75K</li> <li>• \$25K pa three years for illegal dumping research, development and support</li> </ul>

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<p><b>Focus 1:</b> 1.1, 1.2, 1.4.</p> <p><b>Focus 2:</b> 2.1, 2.2, 2.3.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.3.</p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p><b>1.14</b> <b>Continue and Expand Pricing Incentives for Support of Source Separation</b></p> <p>Continue to promote differential waste pricing at the Wollongong Waste and Resource Recovery Park that reflects the true cost of accepting various types of materials. Foster pricing mechanisms incentivise waste generators to source separate materials (organics and recyclables). Charge a higher rate for those who elect not to source separate (particularly C&amp;I and C&amp;D waste). This sends appropriate pricing/financial signals to transition behaviour and covers the full cost of managing mixed waste which is greater than managing source separated waste.</p> <p>Constantly review the marketplace and continue to develop new and expanded onsite facilities that will allow expansion of the types and quantities of materials that can be effectively recycled.</p>	<ul style="list-style-type: none"> <li>• Communicate and promote waste pricing policies and strategies to businesses and the community through promotion and education.</li> <li>• Provide financial incentives for source separation of organics.</li> <li>• To charge the full sustainability or true cost of waste to landfill price for organic/recyclable rich waste materials.</li> <li>• Develop waste pricing mechanisms that don't unnecessarily escalate contract costs to Council and the community.</li> <li>• Shape business and community knowledge and understanding on future waste management practices through strategically targeted policies.</li> <li>• Foster and promote a culture within our businesses and community that understands that certain materials are not suitable for landfill disposal without creating unacceptable environmental risks.</li> <li>• To eliminate the disposal of resource laden waste in landfill and materials that increase the landfill's long-term toxicity or significantly reduces compaction/asset utilisation rates.</li> </ul>	<ul style="list-style-type: none"> <li>• Capital expenditure outlays as technology develops and resource recovery potential expands</li> </ul>

## WASTE & RESOURCE RECOVERY STRATEGY 2022 ACTION PLAN

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<p><b>Focus 3:</b> <b>3.2.</b></p> <p><b>Focus 2:</b> <b>2.1.</b></p> <p><b>Focus 4:</b> <b>4.1,</b> <b>4.2.</b></p> <p><b>STRATEGIC PRIORITY MED</b></p>	<p><b>1.15</b> <b>Improve Council's planning controls related to waste management</b></p> <ul style="list-style-type: none"> <li>• Strengthen and realign the existing Waste Chapter of Council's Development Control Plan to accommodate and promote source separation and to respond to changing waste processing infrastructure.</li> <li>• Specifically review requirements and scope for: <ul style="list-style-type: none"> <li>- demolition and deconstruction activities</li> <li>- requirements on tracking and accountability of construction and demolition waste</li> <li>- waste management for multi-story unit developments.</li> <li>- mixed residential and commercial development requirements</li> <li>- commercial development waste management services to accommodate three bin systems, and DA requirements to provide information on planned external and internal collection and storage facilities</li> <li>- a clean fill management system where those generating fill can locate developments/sites that require fill</li> </ul> </li> <li>• Ensure that DA approval processes require Council's Waste Services Branch to review DAs for MUDs and mixed residential and commercial developments, to ensure adequate services can be provided to residents once the development is occupied.</li> <li>• Engage with and educate planners, architects, builders, developers, peak bodies, and the like, in DCP waste requirements and contemporary waste management and resource recovery practices.</li> <li>• Ensure that construction and demolition industry and waste collection service providers have adequate awareness, knowledge of, and access to, local resource recovery and waste processing services.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that Council's development controls reflect contemporary best practice waste management and resource recovery requirements, and that they keep pace within a rapidly changing waste industry.</li> <li>• Improve resource recovery from the construction and building sector.</li> <li>• Increase resource recovery of recyclables and organic materials from multi-unit dwellings.</li> <li>• Ensure that new commercial developments are designed to allow the provision of waste and recycling services.</li> <li>• Ensure that all stakeholders within the planning and development industry have a high level of awareness of and support contemporary waste and resource recovery practices.</li> </ul>	<ul style="list-style-type: none"> <li>• Operational expenditure outlays to develop in house controls and policy</li> </ul>

## WASTE & RESOURCE RECOVERY STRATEGY 2022 ACTION PLAN

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<p><b>Focus 2:</b> 2.1, 2.2.</p> <p><b>Focus 4:</b> 4.1, 4.2.</p> <p><b>STRATEGIC PRIORITY MED</b></p>	<p><b>1.16 Strengthen Household Sustainable Consumption and Minimising Waste Generation Program</b></p> <ul style="list-style-type: none"> <li>Provide residents with information and support tools to move towards more sustainable consumption patterns. Develop a range of web based information and use media to promote sustainable consumption concepts and guidelines.</li> <li>Use information that demonstrates that over 45% of household garbage bins contain food waste and that by changing our behaviours we can make a real difference to the amount of waste we generate in the first place.</li> <li>Promote more sustainable food purchasing, consumption and disposal.</li> </ul>	<ul style="list-style-type: none"> <li>Foster and promote sustainable resource usage patterns within our community.</li> <li>Encourage the community to avoid creating waste in the first place.</li> <li>Provide practical advice and information on behavioural change that will contribute to sustainable resource usage and waste avoidance best practice.</li> </ul>	<ul style="list-style-type: none"> <li>Education and promotion \$50K</li> </ul>
<p><b>Focus 2:</b> 2.1, 2.2, 2.3.</p> <p><b>Focus 3:</b> 3.2, 3.3, 3.4.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.3, 4.4.</p> <p><b>STRATEGIC PRIORITY LOW</b></p>	<p><b>1.17 Develop / Strengthen Wollongong Recycling and Resource Recovery Directory</b></p> <p>Develop and promote a Wollongong Recycling and Resource Recovery Directory that provides details on local, regional and state based recycling companies and where a broad range of waste items can be taken to be recycled. The public want up to date information on "...what do I do with...?" and "...where can I take my...? questions.</p>	<ul style="list-style-type: none"> <li>Provide comprehensive information on readily available waste and recycling services within our region.</li> <li>Provide specific information on the general community's "... what do I do with...." and "... where can I take my...." questions.</li> </ul>	<ul style="list-style-type: none"> <li>Document creation \$100K</li> <li>Ongoing management \$25K pa</li> </ul>

## WASTE & RESOURCE RECOVERY STRATEGY 2022 ACTION PLAN

Strategic Alignment*	Actions	Objectives	INDICATIVE COST**
<p><b>Focus 2:</b> 2.1, 2.2, 2.3.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.3, 4.4.</p> <p><b>STRATEGIC PRIORITY LOW</b></p>	<p><b>1.18 Sustainable waste management at public / special events</b></p> <ul style="list-style-type: none"> <li>• Develop a Public/Special Event Waste Management Policy that allows for either: <ul style="list-style-type: none"> <li>- mixed waste processing through the mixed waste line of a suitable AWT, to recover standard recyclables and to recover or stabilise organics; or</li> <li>- event organisers to elect to implement a two or three bin source separation system.</li> </ul> </li> <li>• The Policy should require that all events over a nominated size (eg 5,000 persons) provide waste, recycling, litter and cleanup services as part of event management operations. Details of the planned waste management systems should be documented in the Event Management Plan that is submitted to Council for approval. The policy should contain details on minimum standards required to be addressed to gain Council's approval.</li> <li>• For fixed venues that regularly attract a large number of patrons per event, these venues should be encouraged to install standard recycling systems using a two bin approach for standard comingled recyclables and mixed general waste. Where a site generates significant recyclable materials or facilitates large events, Council will either provide appropriate standard recycling systems or require that any leasee's approvals require the organiser or landowner to provide such services.</li> <li>• Council will adopt one of the many readily available Public or Special Event Guidelines documents and place this on its website to provide advisory services to event organisers that choose to implement a two or three bin collection system and manage back of house operations.</li> <li>• Council will further develop and encourage community and social enterprise groups who are seeking to provide Public Event Waste Management Services to event organisers.</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid high cost impost of multiple bin systems for public or special events.</li> <li>• Recover standard recyclable materials and either recover or stabilise organics from public or special events.</li> <li>• Provide clear policy and regulatory approval processes for event organisers.</li> </ul>	<ul style="list-style-type: none"> <li>• Policy development \$30K</li> <li>• Ongoing facilitation \$40K pa</li> </ul>

## WASTE & RESOURCE RECOVERY STRATEGY 2022 ACTION PLAN

Strategic* Alignment	Actions	Objectives	INDICATIVE COST**
<p><b>Focus 3:</b> 3.1, 3.2, 3.3, 3.4.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.3.</p> <p><b>STRATEGIC PRIORITY MED</b></p>	<p><b>1.19 Illegal Dumping Strategy</b></p> <ul style="list-style-type: none"> <li>Develop / review a Wollongong Illegal Dumping Strategy that will strengthen existing initiatives and assist in minimising illegal dumping incidents, and the impacts of those incidents which do take place.</li> <li>The Strategy development process should include: stakeholder engagement; identify and examine the local and site specific causes of illegal dumping; identify who is dumping illegally and why; identify illegal dumping hot spots; develop an illegal dumping spatial database that allows tracking of incident sites, quantities and types of materials cleaned up, cleanup costs etc.</li> <li>The Strategy should also consider a broad range of responses to illegal dumping including access to and signage at lands prone to illegal dumping; surveillance tools and programs; prosecution actions and responsibilities; education, promotion and media activities; promoting community ownership and culture that considers illegal dumping as unacceptable linking Council's Development Application and DCP Waste Chapter waste tracking requirements to construction and demolition based illegal dumping prevention programs; work with specific stakeholder groups such as Charity Organisations to address sector specific issues; develop cleanup programs for areas already impacted by illegal dumping.</li> <li>The Illegal Dumping Strategy should most importantly consider how dumping can be significantly minimised in the first place by removing incentives to dump and providing services that take away any reasons to dump.</li> <li>Continue to work cooperatively with the Southern Councils Group, the NSW EPA and other relevant landowners and stakeholders who are being impacted by illegal dumping activities, and to facilitate stakeholder coordination where required.</li> </ul>	<ul style="list-style-type: none"> <li>Prevent, control and mitigate illegal dumping and irresponsible disposal of waste materials within our community.</li> <li>Engender a culture where people take responsibility for the waste they generate and its proper management.</li> <li>Improve waste services in a way that will minimise incentives for people to illegally dump waste.</li> <li>Promote successful results to encourage behaviour change.</li> </ul>	<ul style="list-style-type: none"> <li>Strategy development \$100K</li> </ul>

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<p><b>Focus 2:</b> 2.1.</p> <p><b>Focus 3:</b> 3.1, 3.3, 3.4.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.3.</p> <p><b>STRATEGIC PRIORITY MED</b></p>	<p>1.20 <b>Litter management</b></p> <ul style="list-style-type: none"> <li>Continue to undertake periodic public education and promotion campaigns targeting anti-littering behaviours.</li> <li>Provide and service public place and street litter bin services to ensure the public can responsibly dispose of materials while out and about.</li> <li>Process mixed general waste collected from public place street litter bins to recover standard recyclables and organics.</li> <li>Review future household kerbside collection bin asset types with a view to transitioning to bins that have a lid lock or catch that prevents contents from spilling out if blown over in high winds or by other means. The bin lock or catch would need to be compatible with Council's outsourced collection fleet.</li> </ul>	<ul style="list-style-type: none"> <li>Minimise littering in public places through the provision of effective education and collection services.</li> </ul>	<ul style="list-style-type: none"> <li>Education and promotion \$50K</li> <li>Market review \$25K</li> </ul>

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<p><b>Focus 2:</b> 2.1, 2.2, 2.3.</p> <p><b>Focus 4:</b> 4.1, 4.2, 4.4.</p> <p><b>STRATEGIC PRIORITY MED</b></p>	<p><b>1.21 Data Management, Reporting and Research Program</b></p> <ul style="list-style-type: none"> <li>• Establish a data management program to collect, analyse, assess and report on Council's waste and resource recovery systems and their performance.</li> <li>• Develop appropriate business systems to support the data management program.</li> <li>• Meet the Commonwealth and State Government's legislative and regulatory data management and reporting requirements.</li> <li>• Undertake regular waste composition and analysis audits across collection and processing services.</li> <li>• To undertake regular community surveys targeting both the domestic and business sectors in order to gain insight into community satisfaction levels, changing community needs and requirements and participation levels.</li> <li>• Undertake an annual resource recovery and recycling industry data survey in partnership with the Wollongong Department of Environment, Climate Change and Water.</li> <li>• Ensure that adequate data and information is readily available to enable sound decision making processes for financial management purposes and to support services contracts into the future.</li> <li>• Provide an Annual Public Progress Report on Waste and Resource Recovery and publish information on Council's website.</li> <li>• Ensure that Council's Waste Services Branch keeps abreast of contemporary best practice waste management and resource recovery practices, technologies and industry trends.</li> <li>• Undertake a formal review of the Waste Strategy every five years and the Action Plan every two years.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that adequate data is available to meet statutory reporting requirements for waste and resource recovery services and activities.</li> <li>• Ensure that Council's business systems for waste data are able to deliver requirements.</li> <li>• Ensure that adequate data is available to meet contractual and procurement needs and requirements.</li> <li>• Undertake public reporting activities to promote transparency for Council and the community's waste management and resource recovery performance.</li> <li>• Stay abreast of best practice in order to remain innovative and flexible.</li> </ul>	<ul style="list-style-type: none"> <li>• Program development \$100K</li> <li>• Ongoing data collection and management \$80K pa</li> </ul>

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<b>Focus 2:</b> 2.1, 2.2, 2.3.  <b>Focus 4:</b> 4.1, 4.2, 4.3, 4.4.  <b>STRATEGIC PRIORITY HIGH</b>	<b>1.22</b> <b>Regional council alliances and strategic partnerships</b>  Where possible and advantageous, form alliances and partnerships with other councils that form the Southern Councils Group to pursue available synergies for collaborative and cooperative waste and resource recovery initiatives.		<ul style="list-style-type: none"> <li>Operational and capital expenditure outlays as opportunities develop</li> </ul>
<b>Focus 4:</b> 4.1, 4.2, 4.3, 4.4.  <b>STRATEGIC PRIORITY LOW</b>	<b>1.23</b> <b>Seek academic alliances</b>  Establish links with University of Wollongong to foster local research and student placement opportunities related to waste management and resource recovery.  Provide influence for relevant course contents to focus on the waste and recycling industry to promote the development of local graduates with waste skills and experience.		<ul style="list-style-type: none"> <li>\$10K pa student scholarship</li> </ul>
<b>Focus 4:</b> 4.1, 4.2, 4.3, 4.4.  <b>STRATEGIC PRIORITY LOW</b>	<b>1.24</b> <b>Commercial waste partnerships</b>  Establish links with relevant local industry and organisations that may provide future opportunities to consume or utilise significant quantities of waste derived resources, or be directly involved in the management of waste in a positive manner.		<ul style="list-style-type: none"> <li>Operational and capital expenditure outlays as opportunities develop (also potential capital expenditure)</li> </ul>
<b>Focus 2:</b> 2.1, 2.2, 2.3.  <b>Focus 4:</b> 4.1, 4.2.  <b>STRATEGIC PRIORITY LOW</b>	<b>1.25</b> <b>Council Waste Reduction Program</b>  Investigate Council's operations with a view to implementing programs that focus on decreasing waste and achieving waste hierarchy goals.	<p>The diagram is an inverted pyramid with five horizontal sections. From top to bottom, the sections are labeled: REDUCE OR AVOID WASTE, REUSE WASTE, RECYCLE WASTE, RECOVER ENERGY, and DISPOSE OF WASTE. The top section is the largest and darkest green, while the bottom section is the smallest and lightest green.</p>	<ul style="list-style-type: none"> <li>Operational and capital expenditure outlays as opportunities develop</li> </ul>

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<p><b>Focus 2:</b> 2.1, 2.2, 2.3.</p> <p><b>Focus 4:</b> 4.1, 4.2.</p> <p><b>STRATEGIC PRIORITY MED</b></p>	<p><b>1.26 Buildings and facilities</b></p> <ul style="list-style-type: none"> <li>All of Council's main administrative buildings and facilities that receive a regular weekly waste service will be required to adopt a two bin source separation system, including garbage and recyclables.</li> <li>Each building should have appropriate, point of generation, source separation bins/receptacles and also one or more centralised waste, recyclables and organics bulk storage systems that facilitate regular collection services.</li> <li>Where cleaning contracts exist that inhibit the adoption of the above approach, these contracts will be varied where possible or amended before future contract arrangements are established. Such contractual amendments to should occur within a three year period from the commencement of this Waste Strategy.</li> <li>Where Council provides buildings or facilities to others, by way of lease or other arrangements, agreements with these parties should be amended over time to incorporate requirements for source separation collection systems.</li> <li>Council will also develop its own internal E-Waste Recycling Policy to ensure that it is responsibly managing all of its own E-Waste, in a sustainable manner.</li> <li>Where Council is to undertake construction activities, building refurbishments or fit outs, it will develop a Waste Management Plan for each such activity that will promote waste minimisation of readily recyclable materials. The plan will detail the activity to be undertaken, the types and likely quantities of materials that will be generated, and how these wastes will be effectively managed with the aim of increasing resource recovery rates.</li> </ul>	<ul style="list-style-type: none"> <li>Develop and implement effective policy and services provision measures to affect resource recovery from Council's operations.</li> <li>Undertake internal education and engagement activities to ensure that operational areas within Council take-up and effectively implement the required waste management and resource recovery approaches.</li> </ul>	<ul style="list-style-type: none"> <li>Operational and capital expenditure outlays as opportunities develop and to conduct review</li> <li>Capital expenditure to facilitate alternative service arrangements (pending result of review)</li> </ul>

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Strategic Alignment*	Actions	Objectives	INDICATIVE COST**
<p><b>Focus 2:</b> 2.1, 2.2, 2.3.</p> <p><b>Focus 4:</b> 4.1, 4.2.</p> <p><b>STRATEGIC PRIORITY LOW</b></p>	<p><b>1.27</b> <b>Parks, gardens and sports ovals</b></p> <ul style="list-style-type: none"> <li>Council will ensure that any garden waste generated from from parks, gardens, sports ovals or other horticultural activities will be separated and transported to local composting operations.</li> <li>Where a site generates significant recyclable materials (100 tonnes per event) or facilities events for over 5,000 people, Council will either provide appropriate standard recycling systems or require that any leases or approvals provide for such services (see Action 1.18).</li> <li>Council will also develop a Service Level Policy for public place collection systems to ensure that adequate numbers of street litter bins are provided for existing and new developments.</li> <li>Where Council requires the use of soil improvement materials, the procurement of such materials should include consideration of the use of product developed from Wollongong's own waste stream to close the loop for organic recycling.</li> </ul>	<ul style="list-style-type: none"> <li>Develop and implement effective policy and services provision measures to affect resource recovery from Council's operations.</li> <li>Undertake internal education and engagement activities to ensure that operational areas within Council take-up and effectively implement the required waste management and resource recovery approaches.</li> </ul>	<ul style="list-style-type: none"> <li>Transport and reprocess \$150K</li> </ul>

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<p><b>Focus 2:</b> 2.1, 2.2, 2.3.</p> <p><b>Focus 4:</b> 4.1, 4.2.</p> <p><b>STRATEGIC PRIORITY LOW</b></p>	<p><b>1.28</b> <b>Caravan &amp; Tourist Parks Program</b></p> <ul style="list-style-type: none"> <li>Where Council's Caravan and Tourist Parks currently have a single mixed garbage waste system in place. There is significant opportunity for these venues to adopt a multi bin approach with recycling stations strategically located throughout these facilities. In addition, these facilities produce significant quantities of garden waste that can be separated for recovery.</li> <li>Council will develop and implement a Caravan &amp; Tourist Park Program where an over-arching strategy is developed, followed by a site specific review of each Caravan and Tourist Park. The site specific waste management plans should promote the separation of standard recyclables, organics and general waste using either kerbside or MUDs style services and to additionally develop systems to manage bulk garden wastes, reusables and general wastes.</li> <li>Council's Waste Services Branch already provides bulk waste collection services to these premises. Council will adopt a policy to require that a three bin source separation approach should be implemented. This could be a two-staged approach with a transition to services that include standard recyclables and garden waste separation now and a further transition to an organics collection when these services are available in the future.</li> </ul>	<ul style="list-style-type: none"> <li>Develop and implement effective policy and services provision measures to affect resource recovery from Council's operations.</li> <li>Undertake internal education and engagement activities to ensure that operational areas within Council take-up and effectively implement the required waste management and resource recovery approaches.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct review \$50K</li> <li>Capital expenditure pending outcome of review</li> </ul>

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<p><b>Focus 2:</b> 2.1, 2.2, 2.3.</p> <p><b>Focus 4:</b> 4.1, 4.2.</p> <p><b>STRATEGIC PRIORITY LOW</b></p>	<p><b>1.29 Works Depots</b></p> <ul style="list-style-type: none"> <li>Ensure that all works crews and gangs undertake appropriate source separation of standard recyclables and garden waste from general waste disposed of to landfill. Ensure all works staff have a high awareness of operational policy requirements related to source separation of targeted materials and the impacts of Waste Depot Pricing Policies if materials are not separated.</li> <li>Investigate and establish appropriate mixed waste processing infrastructure at Works Depots, or utilise existing (or future) Council / private sector mixed construction and demolition waste resource recovery services that can process mixed construction and demolition type wastes. Such operations can recover readily recyclable materials and can result in up to 90% recovery rates for a cheaper rate of around \$150/tonne, and less than landfilling costs.</li> <li>Develop a specific asphalt recycling program that takes road millings and chippings and develops products or materials that can be beneficially reused. This project would not only look at processing but market development opportunities.</li> <li>Develop a specific street sweeping waste materials recycling program that takes materials collected containing high quantities of organics and dirt materials and composts or remediates that material and allows for its recycling rather than disposal to landfill.</li> </ul>	<ul style="list-style-type: none"> <li>Establish appropriate materials source separation policies for Council's operational activities.</li> <li>To Raise awareness of Waste Depot Pricing Policy impacts on Council's and individual project budgets if source separation opportunities are not undertaken.</li> <li>Foster the establishment of appropriate private sector resource recovery operations for processing mixed construction and demolition wastes.</li> <li>Develop materials specific programs to facilitate resource recovery opportunities.</li> <li>Develop Environmental Management Plans.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct review \$50K</li> <li>Capital expenditure pending outcome of review</li> </ul>

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Strategic Alignment*	Actions	Objectives	INDICATIVE COST**
<p><b>Focus 1:</b> 1.3</p> <p><b>Focus 2:</b> 2.1.</p> <p><b>Focus 3:</b> 3.2, 3.3.</p> <p><b>Focus 4:</b> 4.1, 4.2.</p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p>1.32 <b>Emergency management - Waste Management Strategy</b></p> <ul style="list-style-type: none"> <li>Ensure that waste generated as a result of disasters is managed efficiently and with minimal impact on community and business activity and the environment, and does not negatively disturb Council's routine waste operations and strategic goals.</li> </ul>		<ul style="list-style-type: none"> <li>Operational exp enditure to facilitate and plan multidisciplinary approach</li> <li>Potential cost for strategy development \$50K</li> </ul>
<p><b>All</b></p> <p><b>STRATEGIC PRIORITY HIGH</b></p>	<p>1.33 <b>Take advantage of grant opportunities as they arise</b></p> <ul style="list-style-type: none"> <li>Assess any available grant opportunities.</li> <li>Should grant funding become available, action priorities should be adjusted.</li> </ul>	<ul style="list-style-type: none"> <li>Minimise costs to the community by taking advantage of available grants.</li> <li>Improve ability of Council to deliver actions.</li> </ul>	<ul style="list-style-type: none"> <li>Operational expenditure as opportunities develop</li> </ul>