CITY OF
TEA TREE GULLY
Naturally Better

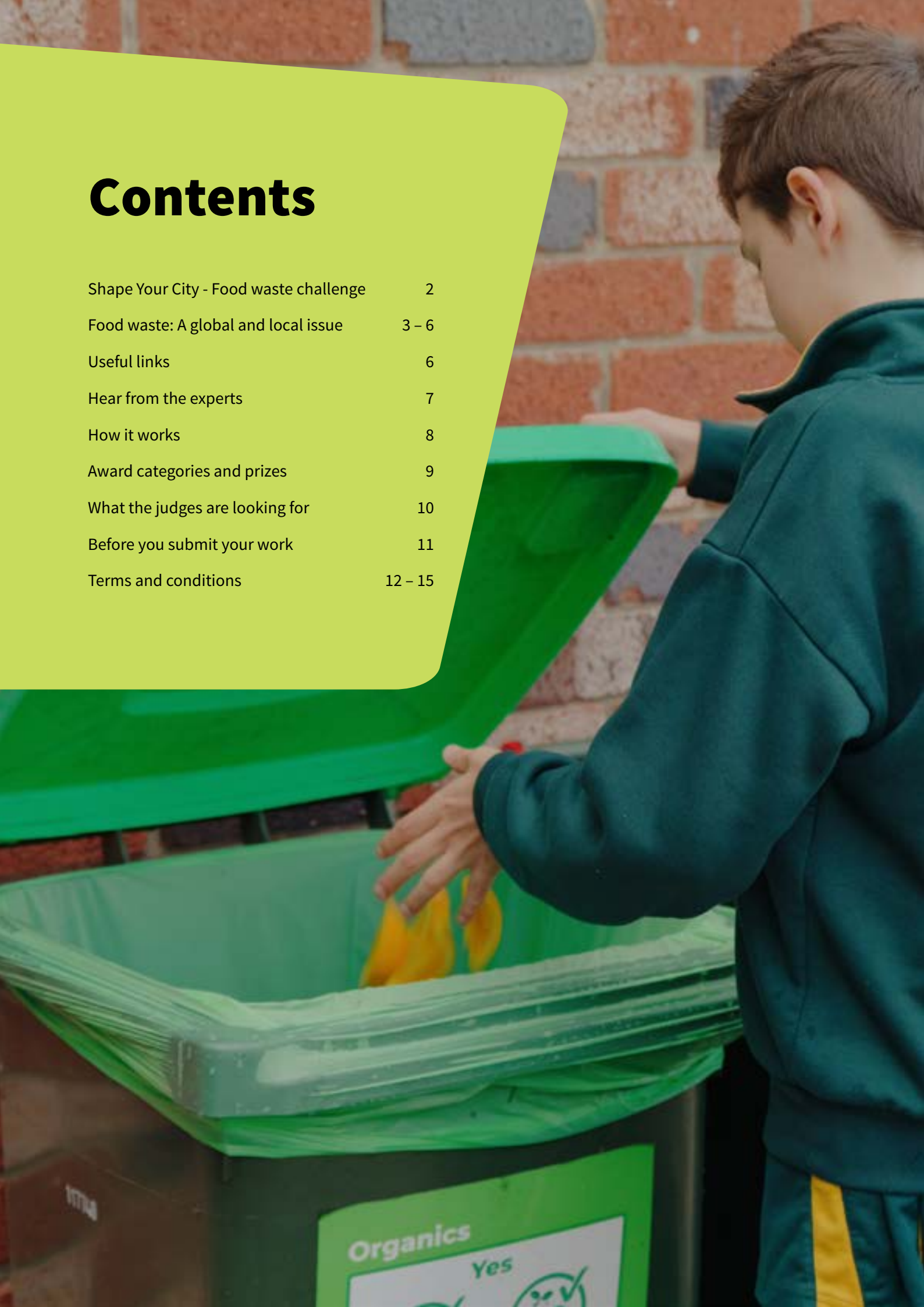
Shape Your City

Challenge brief

Years 7 to 10

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Shape Your City
Food waste challenge

Your mission is to develop an innovative, evidence-based solution that could significantly reduce the amount of food waste sent to landfill in the City of Tea Tree Gully.



Welcome to Shape Your City, the City of Tea Tree Gully's annual waste and resource recovery challenge.

This year's focus is food waste, one of world's biggest environmental challenges.

Food waste includes edible food that is thrown away, as well as unavoidable scraps such as banana peels, eggshells and bones.

Across our City, food is still being placed in household red-lid landfill bins every day. Much of this could have been eaten, composted at home or placed in the green-lid food and organics bin, where it can be turned into nutrient-rich compost instead of being buried in landfill.

When food is wasted, so is the water, energy, land, resources and effort used to produce it. When food ends up in landfill, it also creates harmful greenhouse gases that contribute to climate change.

This challenge asks students to investigate how food waste occurs in their school or community and design practical solutions to prevent food waste, improve organics recycling and keep valuable resources out of landfill.

Your Challenge

Every great idea begins with a simple question: What if we did things differently?

Now it's your turn to ask this question.

Your mission is to develop an original, evidence-based solution that could significantly reduce the amount of food waste being sent to landfill in the City of Tea Tree Gully.

To do this, you'll need to think like professionals:. You are encouraged to explore the issue within your own school or local community by collecting evidence, engaging with stakeholders and investigating current behaviours and practices.

There is no single right answer. Every school and community is different, and the strongest solutions will be those that are well researched, evidence-based, innovative and capable of being realistically implemented.

This is your opportunity to think like an environmental innovator and help shape a more sustainable future for your community.

Food waste: A global and local issue

Food waste is one of the world's most significant environmental, economic and social challenges. While millions of people experience food insecurity, around one-third of all food produced for human consumption is lost or wasted each year.

Food waste occurs at every stage of the food supply chain, from farms and food manufacturers through to supermarkets, restaurants, schools and our homes.

Some food waste is unavoidable. Items such as eggshells, banana peels and bones cannot be eaten. However, a large proportion of food waste is avoidable. It is food that was once perfectly good to eat but was purchased, prepared or served and never consumed.

When food is wasted, we lose far more than the food itself. Every piece of wasted food represents the resources used to produce it, including:

- Water used to grow crops and raise livestock
- Energy used for farming, manufacturing and refrigeration
- Valuable agricultural land
- Fuel used for transport and distribution
- Packaging materials
- Time, effort and labour from farmers, manufacturers, transport workers, retailers and hospitality businesses

Food waste also contributes significantly to climate change. When food is buried in landfill it breaks down without oxygen and produces methane, a greenhouse gas that this more harmful than carbon dioxide.

Preventing food waste is recognised as one of the most effective actions communities can take to reduce greenhouse gas emissions.

One-third of food produced for human consumption is lost or wasted globally.

Gustavsson, J., Cederberg, C., & Sonesson, U., 2011. Global Food Losses and Food Waste: Extent, Causes and Prevention. FAO.

If food loss and waste were a country, it would be the third biggest source of greenhouse gas emissions behind China and the USA.

Scialabba, 2015. Food Wastage Footprint and Climate Change. FAO.

Each year, 7.6 million tonnes of food is wasted across the Australian food system, enough to fill the MCG 10 times. This is equivalent to 312kg per person.

FIAL, 2021. The National Food Waste Strategy Feasibility Study – Final Report.

Approximately 70% of the food waste across the supply chain is edible.

FIAL, 2021. The National Food Waste Strategy Feasibility Study – Final Report.

17.5 million tonnes of CO2 equivalent greenhouse gases are generated from the production and disposal of food that is wasted in Australia each year.

FIAL, 2021. The National Food Waste Strategy Feasibility Study – Final Report.

Food Waste in Australia

Every year Australians wastes approximately 7.6 million tonnes of food, that's more than 300 kilograms per person. This costs the Australian Economy around $36.6 billion annually.

Food waste occurs across the entire food supply chain, including:

- Farms
- Food manufacturers
- Supermarkets
- Restaurants and cafes
- Schools
- Households

Australian households generate around 2.5 million tonnes of food waste every year, making homes one of the largest contributors to the problem. In fact, the average household wastes between $2,500 and $3,800 worth of food each year.

Significant proportion of Australia's food waste, highlighting the importance of education and behaviour change.

Australia has committed to halving food waste by 2030 through the National Food Waste Strategy.

- Reducing Australia's Food Waste
- National Food Waste Strategy
- National Food Waste Feasibility Study
- End Food Waste Australia

Food waste in the household makes up almost one third of the total food waste in Australia (2.46 million tonnes).

Scialabba, 2015. Food Wastage Footprint and Climate Change. FAO.

Australian households waste more than twice the amount of food than they think they do.

Karunasena, G.G., Pearson, D., and Fight Food Waste CRC, 2021. Australian Household Food Waste: A Summary of Behaviours, Attitudes, Perceived and Actual Food Waste. Fight Food Waste Cooperative Research Centre, Adelaide, Australia.

Australian households waste more than four kilograms of food a week.

Karunasena, G.G., Pearson, D., and Fight Food Waste CRC, 2021. Australian Household Food Waste: A Summary of Behaviours, Attitudes, Perceived and Actual Food Waste. Fight Food Waste Cooperative Research Centre, Adelaide, Australia.

The average household throws 265kgs of food waste in the bin a year.

Scialabba, 2015. Food Wastage Footprint and Climate Change. FAO.

Food waste is costing households $2,500 each year, more than the average electricity bill.

Karunasena, G.G., Pearson, D., and Fight Food Waste CRC, 2021. Australian Household Food Waste: A Summary of Behaviours, Attitudes, Perceived and Actual Food Waste. Fight Food Waste Cooperative Research Centre, Adelaide, Australia.

Food Waste in South Australia

South Australia is recognised as a national leader in waste management and resource recovery.

The state continues to lead Australia in recovering valuable materials from waste, but food waste remains one of the largest materials still entering landfill.

Fortunately, South Australians are well placed to make a difference.

Most households now have a Food Organics and Garden Organics (FOGO) collection service. This allows food scraps and garden material processed into nutrient-rich compost used in agriculture, landscaping and home gardens.

However, recycling food is only part of the solution. The greatest environmental benefit comes from preventing food waste in the first place.

That means:

- Planning meals
- Storing food correctly
- Understanding use-by and best-before dates
- Using leftovers
- Buying only what is needed.

South Australia's Circular Economy Strategy recognises reducing food waste as one of the state's greatest opportunities to improve environmental outcomes, reduce greenhouse gas emissions, conserve valuable resources and support a more sustainable circular economy.

- Green Industries SA
- Accelerating SA's transition to a circular economy: South Australia's waste strategy 2025–2030

Food Waste in the City of Tea Tree Gully

City of Tea Tree Gully residents generate more than 40,000 tonnes of waste each year.

Recent kerbside waste audits show that food waste continues to make up one of the largest components of household landfill bins.

Nearly half of everything placed in the average red-lid landfill bin is food (by weight) that could have been composted through the green-lid food and organics bin.

This represents a major opportunity. Reducing food waste will help:

- Reduce greenhouse gas emissions
- Reduce landfill costs
- Improve recycling and resource recovery
- Protect natural resources
- Support South Australia's circular economy
- Save residents money.

Following extensive community consultation involving more than 2,000 residents and stakeholders, food waste was identified as one of Council's highest priorities within it's Waste and Resource Recovery Strategy.

Council is responding by:

- Providing FOGO collections
- Delivering community education programs
- Supporting home composting
- Improving recycling infrastructure
- Working with school and community groups
- Encouraging behaviour change.

Shape Your City forms an important part of this work by empowering young people to investigate real environmental problems and design practical solutions for their own communities.

- Waste and Resource Recovery Strategy 2033

Food waste in schools

Schools generate food waste every day through lunches, canteens, events and classroom activities.

This makes schools an ideal place for students to investigate a genuine environmental issue while creating measurable change.

You can:

- Investigate waste within their school
- Conduct waste audits
- Collect and analyse data
- Educate their peers and families
- Influence behaviour
- Test new ideas
- Measure environmental outcomes

The ideas developed through Shape Your City have the potential to create positive change both within schools and across the wider community.

Young people are uniquely positioned to solve tomorrow's challenges.

They understand emerging technology. They see opportunities adults sometimes overlook. They're creative, curious and collaborative.

Most importantly, they're willing to question the way things have always been done.

Throughout history, many world-changing innovations began with students asking simple questions:

- Why does this happen?
- Could this work better?
- Is there another way?

Shape Your City encourages students to ask those same questions in their quest to solve this real problem in a practical, achievable way.

Useful links

Successful projects are built on good research. Throughout the challenge, use reliable, evidence-based sources.

When researching, always consider who published the information and whether it comes from a trusted government, education, research or industry organisation.

The following Australian resources are recommended.

Australian government

- Department of Climate Change, Energy, the Environment and Water
- National Food Waste Strategy

National research and education

- End Food Waste Australia
- The Great Unwaste

South Australia

- Green Industries SA
- Which Bin SA
- KESAB
- Department for Education (SA)

Local government

- City of Tea Tree Gully
- Remplan
- Local Government Association of SA

Industry partners

- Jeffries
- Saveful

Food rescue

- OzHarvest
- Foodbank Australia

Behaviour change

- Love Food Hate Waste NSW

Home composting

- Compost Revolution

Hear from the experts

Hear from the experts

Throughout the Shape Your City challenge, students will hear directly from experts who are tackling food waste.

These short videos provide insights into the causes of food waste, the solutions being implemented across South Australia, and the careers helping build a more sustainable future.

Students will discover how governments, businesses, schools and community organisations are working together to reduce food waste and keep valuable resources circulating within the economy.

Jeffries

Learn how food and garden organics are transformed into compost and returned to the soil, supporting agriculture, landscaping and home gardens.

jeffries.com.au

Saveful

Explore how technology can help households reduce food waste by planning meals, using ingredients efficiently and reducing unnecessary food purchases.

saveful.com

The Great Unwaste

Discover Australia's national behaviour change campaign and learn practical strategies that help households reduce food waste.

thegreatunwaste.com.au

Golden Grove High School

See how one school has integrated food waste education, organics collection, composting and food production into everyday school life.

goldengrovehs.sa.edu.au

City of Tea Tree Gully

Understand how local government is working with the community to reduce waste, improve resource recovery and support a circular economy.

cttg.sa.gov.au

Meet the experts

In Week 6 of Term 3, student teams will have the opportunity to participate in a live online question and answer session with the industry experts featured in the video series.

This interactive session gives students the chance to ask questions, test their ideas, and receive valuable feedback to help refine their proposed solutions before preparing their final submission.

How it works

The innovation journey

Working in teams of four to six, you will undertake an innovation journey that mirrors real-world problem solving.

Using inquiry-based learning and design thinking, your team will:

- Investigate a real-world challenge
- Learn from industry experts
- Conduct research and gather evidence
- Analyse data and identify key insights
- Engage with stakeholders
- Consider different perspectives
- Generate, test and refine ideas
- Design an innovative and practical solution
- Evaluate it's feasibility and impact
- Create an implementation plan
- Pitch their proposal to judges
- Reflect on their learning.

Throughout the challenge, you are encouraged to think critically, collaborate effectively and develop solutions that are both innovative and achievable.

Designing a solution

There is no single right answer. Although every team will investigate the same challenge, teams are encouraged to think creatively and explore a diverse range of solutions.

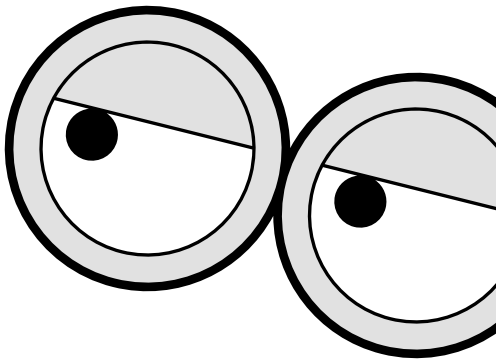
Some teams may focus on behaviour change or education, while others may design new products or technologies, develop digital tools or applications, improve existing services or create something completely original.

Whatever form the solution takes, it should be informed by research, supported by evidence, developed with stakeholder input and designed to address the challenge in a realistic and achievable way.

1. **Investigate |** 2 weeks
   Explore the challenge, understand the problem, gather information and conduct research.
2. **Define |** 2 weeks
   Analyse findings, identify key insights and clearly define the problem to be solved.
3. **Ideate |** 2 weeks
   Generate, explore and refine a wide range of possible solutions using creative thinking techniques.
4. **Design and test |** 2 week
   Develop the preferred solution, create prototypes or models where appropriate, seek feedback and refine ideas.
5. **Submission |** 2 weeks
   Prepare and deliver a persuasive proposal supported by evidence, implementation planning and evaluation.

   Finalise and submit the completed project, supporting documentation and presentation materials.
6. **Reflect and celebrate**
   Reflect on learning, celebrate achievements and recognise the impact of the innovation journey.

What the judges are looking for



The judging panel includes experts from education, environmental sustainability, local government, industry and community organisations.

Judges will assess not only the quality of your solution, but also the process your team followed to develop it. They will be looking for evidence of thorough research, critical thinking, stakeholder engagement, creativity and realistic planning.

The strongest submissions will present solutions that are well researched, evidence-based, practical and capable of delivering meaningful benefits for the school or local community.

Projects will be assessed against the following seven criteria:

- **Investigation**

  A thorough understanding of the challenge demonstrated through high-quality research, data collection, evidence analysis and meaningful stakeholder engagement.

- **Problem definition**

  A clear, focused problem statement supported by evidence. The team clearly explains why the issue matters, who it affects and the opportunity for improvement.

- **Solution development**

  An innovative, evidence-based solution that responds directly to the identified problem. The proposal is creative, practical, achievable and demonstrates strong design thinking.

- **Feasibility**

  The solution is realistic, practical and achievable. Judges will consider technical viability, cost, available resources, stakeholder support, potential barriers and the likelihood that the solution could be successfully implemented.

- **Implementation**

  A well-developed implementation plan that outlines key actions, timelines, responsibilities, budget and resource requirements, risk management and clear measures of success.

- **Impact**

  The solution has the potential to deliver meaningful environmental, social and/or economic benefits. Judges will consider the scale of the impact, who will benefit, how success will be measured, and whether the outcomes are likely to be sustained over time.

- **Communication**

  A clear, engaging and professional presentation that effectively communicates the team's research, reasoning and proposed solution. The presentation is well organised, supported by evidence and visuals, with all team members contributing.

Before you submit your work

Before you submit your project, use this checklist to make sure everything is complete.

Team Details

- ☐ Team name included.
- ☐ School name included.
- ☐ Teacher name and contact details included.
- ☐ All student team members listed.
- ☐ Problem statement clearly identified.

Investigation (Maximum 500 words)

- ☐ Conducted research using reliable sources.
- ☐ Collected relevant data and evidence.
- ☐ Engaged with relevant stakeholders.
- ☐ Identified key findings from the investigation.
- ☐ Included evidence to support conclusion.

Problem Definition (Maximum 500 words)

- ☐ Clearly defined the problem.
- ☐ Explained why the problem is important.
- ☐ Identified who is affected.
- ☐ Adequately justified the problem statement.

Solution Development (Maximum 500 words)

- ☐ Developed an innovative solution.
- ☐ Considered alternative ideas.
- ☐ Explained how the solution addresses the problem.

Feasibility (Maximum 500 words)

- ☐ Demonstrated the solution is achievable.
- ☐ Considered costs and available resources.
- ☐ Identified potential challenges or risks.
- ☐ Explained how barriers could be managed.
- ☐ Demonstrated stakeholder support .

Implementation (Maximum 500 words)

- ☐ Included a clear implementation plan.
- ☐ Identified key actions.
- ☐ Included a realistic timeline.
- ☐ Assigned responsibilities.
- ☐ Included a budget or estimated costs.
- ☐ Identified required resources.
- ☐ Explained how success will be measured.

Impact

- ☐ Explained the expected environmental, financial, social and/or community benefits.
- ☐ Estimated the scale of the impact.
- ☐ Explained how long-term success could be maintained.

Submission

- ☐ Submission follows the required format.
- ☐ All required documents are included.
- ☐ All references are correctly acknowledged.
- ☐ It is clear, engaging and well organised.
- ☐ Visuals are easy to understand.
- ☐ Evidence and data is presented accurately and correctly referenced.

If you answered **yes** to every item above, your project is ready to submit.

Good luck! And remember, the strongest projects aren't always the biggest.
They're the ones that are well researched, evidence-based, innovative, practical and capable of making a real difference.

Terms & conditions

Competition organiser

- The Shape Your City competition ("the Competition") is conducted by the City of Tea Tree Gully ("Council").

Competition period

- The Competition commences at the beginning of Term 3 and closes at 4pm on the final Thursday of Term 3, unless otherwise advised by Council.
- Council reserves the right to amend competition dates, extend submission deadlines, suspend, postpone or cancel the Competition at any time and for any reason.

Eligibility

- The Competition is open to students in years 7–10 enrolled at participating schools within the City of Tea Tree Gully.
- Students must:
  - Compete in teams of four to six.
  - Be supervised by a nominated teacher from their school.
  - Submit a project that addresses the current year's Challenge Brief.
- Schools may enter multiple teams.
- Each team may submit only one project.

Competition requirements

- To be eligible, entries must:
  - Be submitted under the supervision of the supervising teacher.
  - Be received by the published closing date and time.
  - Comply with all submission requirements.
  - Address the Challenge Brief.
  - Meet the published assessment criteria.
- Council accepts no responsibility for lost, late, incomplete, corrupted or misdirected submissions.

Originality and academic integrity

- Projects must represent the original work of the student team.
- Students are encouraged to undertake research and draw upon existing information to inform their project.
- All external information, images, data and resources must be appropriately acknowledged.
- Projects must not contain plagiarised, misleading or deliberately false information.

Use of artificial intelligence (AI)

- Artificial intelligence (AI) tools may be used to support activities such as:
  - Research
  - Planning
  - Editing.
- Submitted projects must clearly demonstrate the students' own:
  - Understanding
  - Critical thinking
  - Creativity
  - Decision-making
  - Analysis.

Judging

- Projects will be assessed by a judging panel appointed by Council, which may include representatives from:
  - Local government
  - Industry
  - Education
  - Environmental organisations
  - The waste and resource recovery sector.
- Projects will be assessed using the published Shape Your City Assessment Criteria.
- Judges' decisions are final and no correspondence will be entered into.
- Council reserves the right not to present an award if, in the opinion of the judging panel, submissions do not meet the required standard.

Conflict of interest

- Council will take reasonable steps to ensure judging is fair and impartial.
- Judges must declare any actual, potential or perceived conflict of interest and may be excluded from assessing any project where such a conflict exists.

Awards and project funding

- The Competition includes the following awards:
  - Excellence Award – Years 7–8
  - Excellence Award – Years 9–10
  - Judges' Commendation
  - People's Choice Award
- Each Excellence Award winner and the People's Choice Award winner will receive $750 in project funding.
- The People's Choice Award winner will receive $250 in project funding.
- Funding will be provided to the participating school to support implementation of the winning project.
- Where implementation of the original proposal is not practical, feasible or approved, the funding may instead be used to support another waste reduction, resource recovery or sustainability initiative that aligns with the objectives of Shape Your City.
- Project funding:
  - Is not transferable to individuals.
  - Must be administered through the participating school.
- Any costs exceeding the awarded funding remain the responsibility of the school unless otherwise agreed in writing by Council.

Project implementation

- Winning projects are not automatically approved for implementation.
- Implementation remains subject to:
  - Approval by Council.
  - Approval by the participating school.
  - Any required risk assessments.
  - Available resources and budget.
  - Legislative and regulatory requirements.
  - Relevant Council policies.
  - Any other approvals considered necessary.
- Council may work collaboratively with schools and winning teams to modify or refine a project to improve its safety, feasibility, affordability or effectiveness while maintaining the intent of the original proposal.

Intellectual property

- Students and participating schools retain ownership of the intellectual property contained within their submissions.
- By entering the Competition, participating schools grant Council a non-exclusive, perpetual, royalty-free licence to reproduce, publish, display, communicate, or adapt submitted materials for educational, promotional, reporting and community engagement purposes.
- Where practicable, Council will acknowledge the participating school and student team.

Photography, video and promotion

- Winning and selected teams may be invited to participate in awards presentations, exhibitions, media opportunities and community events, including the Council's Recycling Festival.
- By entering the Competition, participating schools agree that submitted projects, photographs, videos and presentations may be used by Council for educational, promotional and reporting purposes.
- Schools are responsible for ensuring all required permissions have been obtained for the use of student names, photographs and videos in accordance with their own policies.

Privacy

- Council will collect, store and manage personal information in accordance with applicable privacy legislation.
- Personal information collected as part of the Competition will be used only for administering the Competition and associated educational, promotional and reporting activities.

Code of conduct

- All participants are expected to demonstrate respectful, inclusive and ethical behaviour throughout the Competition.
- Projects, presentations and supporting materials must not contain content that is:
    - Offensive
    - Discriminatory
    - Defamatory
    - Unlawful
    - Inappropriate for a school audience.
- Council reserves the right to remove or disqualify any submission that does not meet these expectations.

Accessibility and inclusion

- Council is committed to making Shape Your City accessible to all students.
- Reasonable adjustments may be made, where practicable, to support participation by students with disability or additional learning needs.
- Schools requiring adjustments are encouraged to discuss their requirements with Council as early as possible.

Disqualification

- Council reserves the right to disqualify any submission where it reasonably believes that:
    - These Terms and Conditions have been breached.
    - False or misleading information has been provided.
    - Plagiarism or copyright infringement has occurred.
    - The work is not substantially the students' own.
    - The submission contains inappropriate content.
    - The project otherwise fails to meet the Competition requirements.

Liability

- To the extent permitted by law, Council accepts no responsibility for:
    - Lost, delayed or incomplete submissions.
    - Technical failures or interruptions.
    - Damage to submitted materials.
    - Any loss, damage, cost or personal injury arising from participation in the Competition or implementation of funded projects.
- Nothing in these Terms and Conditions excludes any rights or remedies that cannot legally be excluded under Australian law.

Force majeure

- Council will not be liable for any delay, alteration, suspension or cancellation of the Competition arising from circumstances beyond its reasonable control, including but not limited to natural disasters, public health emergencies, industrial action, school closures, technology failures or government directions.
- Where such circumstances occur, Council may amend the Competition timeline, judging process or awards as necessary.

Changes to the competition

- Council reserves the right to amend these Terms and Conditions where reasonably necessary to ensure the fair and effective administration of the Competition.
- Any significant changes will be communicated to participating schools as soon as practicable.

Acceptance of terms

- By submitting a project, the participating school, supervising teacher and student team acknowledge that they have read, understood and accepted these Terms and Conditions.
- The following documents form part of these Terms and Conditions and should be read together:
  - Annual Challenge Brief
  - Teaching and Learning Resource
  - Student Workbook
  - Assessment criteria
  - Submission Guidelines
  - Any additional Competition information published by the City of Tea Tree Gully.

No guarantee of implementation

- While Council is committed to recognising and celebrating innovative ideas, participation in the Competition does not guarantee that any proposed project will be implemented by Council or the participating school.
- Winning projects may require further investigation, consultation, technical assessment, funding approval or modification before implementation.
- Council may adopt, adapt or incorporate ideas from submitted projects into future initiatives without any obligation to implement the project in its original form.



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