

Private Sector Pathways (PSP) Program Challenge Statement

Smart Waste Management Solutions Across Queensland's Ecotourism Sites

Challenge statement

This Private Sector Pathways (PSP) Challenge seeks to partner with innovative Queensland based organisations with practical and scalable solutions to strengthen waste management practices and reduce environmental impacts across ecotourism destinations within Queensland.

New and improved ecotourism opportunities will be unlocked across the state as Queensland champions 45 innovative ecotourism projects by 2045 as part of the broader Destination 2045 vision. Minimising the impact ecotourism operations have on the natural environment requires a strong focus on effective waste management that drives positive behaviour change in visitors and operators, protecting environmental values, respecting cultural heritage and maintaining safe and positive visitor experiences.

Waste management challenges in ecotourism do not arise from a lack of intent, but from system, scale and long-term planning constraints. Challenges often emerge in areas such as infrastructure design, waste and sanitation management, and social impacts.

Ecotourism sites are often located in remote, natural areas without access to traditional sewage or sanitation infrastructure. Waste, if not managed properly, can lead to pollution, contamination of water sources and damage to fragile ecosystems. It can also impact wildlife, contribute to the spread of disease and undermine the natural assets that ecotourism seeks to offer and protect.

Given that many of these areas are off-grid, there is a clear need for innovative, low-impact, environmentally friendly waste and sanitation solutions that are practical, easy to maintain and capable of supporting long-term conservation outcomes. Solutions should support operational staff and be adaptable to a range of ecotourism destinations across Queensland.

Challenge owner

The owner of this challenge is the Tourism Division within the Department of the Environment, Tourism, Science and Innovation (DETSI).

The department leads Queensland's tourism and environmental priorities, including delivering the Queensland Government's commitment to responsibly showcase and deliver 45 innovative ecotourism projects by 2045. Success by 2045 will include the delivery of world-class ecotourism projects, expanded dark sky tourism experiences, increased light-footprint accommodation options in protected areas and the continued conservation of Queensland's natural assets.

Tourism contributes approximately \$42 billion in annual visitor expenditure to Queensland's economy every year. The Tourism Division ensure growth in ecotourism visitation is supported by responsible planning, appropriate infrastructure and the protection of the state's significant natural and cultural assets.

Through this challenge, the department is seeking to partner with organisations that can strengthen waste management solutions and practices, supporting sustainable ecotourism outcomes and making Queensland a world-leader in ecotourism.

2045 projections

Queensland will be a global leader in tourism, showcasing our environment, lifestyle, cultures and regions.



\$84B

Total visitor expenditure per year



190,000

Direct jobs per year



\$32B

Gross value added per year

Figure 1: Queensland Tourism Industry Projections by 2045 <https://destination2045.detsi.qld.gov.au/20-year-tourism-plan>

Challenge context

The current situation

Queensland's tourism sector is entering a period of accelerated growth, driven by the "green and gold runway" toward the Brisbane 2032 Olympic and Paralympic Games and the broader ambitions of Destination 2045. The state has set a target to double annual visitor expenditure to \$84 billion by 2045. Increased visitation to natural areas, such as remote national parks and ecotourism sites, will further increase demand on existing waste management frameworks.

Remote ecotourism destinations face challenges in managing sanitation waste due to limited or non-existent access to traditional infrastructure. In many cases, waste must be pumped out and transported to urban waste management facilities, creating high transport and labour costs. Alternatively, visitors are often required to rely on rudimentary composting facilities, which may detract from the overall visitor experience.

Without access to mainstream infrastructure, managing sanitation waste on-site presents a potential solution; however, this often necessitates a large physical footprint. Such infrastructure can disrupt the natural environment, impacting local ecosystems and the visual landscape. Additionally, the presence of extensive waste management facilities may detract from the immersive and pristine experience that visitors seek in remote ecotourism destinations.

Many remote ecotourism destinations rely on traditional "pack-in, pack-out" policies, fixed bins serviced on scheduled routes, or manual collection by rangers and contractors. These systems often require long-distance travel creating high transport and labour costs, limited responsiveness to overflow events and divert operational capacity from conservation and visitor engagement. Bin servicing is frequently reactive rather than demand-driven, increasing the likelihood of overflow, littering, wildlife disturbance and negative visitor experiences during peak periods.

While more urban areas in Queensland have successfully integrated smart waste management solutions such as solar-powered compacting bins and IoT sensors to monitor fill levels in real-time, these market offerings are rarely optimised for the rugged conditions of remote ecotourism destinations.

Queensland's natural areas span millions of hectares and includes hundreds of national and state parks, islands, campgrounds, walking tracks, beaches and marine access points, attracting millions of visitors annually. The impacts of waste management affect diverse stakeholders, including visitors, park rangers, tourism operators, local communities, Traditional Owners and government agencies. As visitor numbers grow toward 2045 and beyond, expectations for sustainable waste management and environmental stewardship are likely to intensify. Innovation in waste management solutions that drive positive behaviour change is vital to conserving Queensland's natural assets and maintaining its reputation as a global ecotourism leader.

Challenge imperative

Innovative waste management solutions will play a significant and meaningful role in realising Queensland's goal of delivering 45 innovative world-class ecotourism projects by 2045. Solutions must embed key imperatives such as, affordability, sustainability and simplicity. Initiatives must ensure cost-effectiveness for the Department, be accessible and easy to use for visitors and operators and scalable across Queensland's remote ecotourism

destinations. Solutions must be simple to implement and maintain across Queensland's remote ecotourism destinations, without creating additional maintenance obligations or reliance on increased staffing or external services.

If a proposed solution does increase maintenance or staff reliance, these must be clearly identified and highlighted in your submission.

To meet these needs, the department invites forward-thinking, practical solutions that are designed to be fully and properly implemented, build trust through stakeholder engagement and deliver lasting impact without placing undue strain on resources. By doing so, Queensland can set a new standard for waste management in remote ecotourism destinations that establish the state as a global leader in the tourism industry.

Intended objectives or outcomes

The department encourages solutions which seek to address waste challenges, in whole or in part, across a broad spectrum including, but not limited to, the potential for managing hard and/or human waste, incorporating closed loop solutions, those which consider climate and weather resilience, and/or turn waste into other resource or energy opportunities, as examples.

Your innovative solution must improve waste management at remote ecotourism destinations across Queensland, promote positive visitor behaviours and may resolve one, multiple or non-listed imperatives identified below.

Imperative	Short Summary
Cost	Solutions must be designed to be cost-effective for the Queensland Government or industry while remaining free or low cost for users. Affordable, scalable solutions will help ensure access across a number of remote parks and ecotourism sites and create sustainable long-term outcomes for Queensland's natural assets. Noting the pilot project will receive \$100,000 (excluding GST) funding. Should the pilot be successful the cost of scalability needs to be reasonable and considered as part of the application.
Rural and remote	A successful solution will be appropriate for sites located in remote and natural areas such as islands, national and state parks, beaches and campgrounds. Each location has its own physical and logistical challenges so the solution should adapt to and be resilient in various landscapes and environments. Solutions must not occupy a large physical footprint.
Stakeholder Engagement	Solutions may engage Traditional Owners, locals, staff and ecotourism operators in their design, development and evaluation. The aim is to create an effective waste management solution that encourages all visitors to engage in positive waste management behaviours.
Useability	The solution should be able to be used by a variety of visitors and staff – considering accessibility, non-English speaking and digital literacy.
Future Growth and Scalability	The solution must have the potential to scale and adapt as the number of visitors at ecotourism destinations grows, ensuring long-term relevance for Queensland's growing tourism industry. Solutions must be capable of evolving alongside the demand experienced in the ecotourism sector.

Stakeholders

Effective waste management and positive visitor behaviour change across Queensland's ecotourism destinations requires collaboration from a wide range of stakeholders, each with valuable perspectives.

Primary stakeholders

- **Visitors and tourists** are the primary users of remote ecotourism destinations and are expected to practice responsible waste management behaviours to minimise environmental impacts and preserve the natural beauty of Queensland's natural areas.
- **Tourism operators and accommodation providers** influence visitor behaviours before and during site visits. They have responsibilities to demonstrate best practice waste management, reduce waste generation within their services and reinforce responsible conduct throughout the visitor journey. They also provide key infrastructure and facilities for visitors.
- **Local residents** often experience the indirect impacts of tourism-related waste, such as environmental degradation and pressure on local infrastructure. Their local knowledge, community expectations and stewardship support accountability and continuous improvement.

Key enablers

- **Council and State Government** agencies set policy, provide funding and deliver waste management services critical to infrastructure, regulations and operational support aligned with broader ecotourism objectives. Through DETSI, it also actively manages and collaborates with ecotourism destinations to ensure world-class experiences and environmental outcomes are achieved.
- **Traditional Owners:** bring essential cultural knowledge and custodianship perspectives that underpin sustainable waste management approaches and respectful enjoyment of Queensland's natural assets.
- **Waste management organisations and regulators** provide expertise in waste system design, collection, transport and processing to maximise environmental and operational outcomes.

Support stakeholders

- **Tourism and Events Queensland, Research Organisations, SMEs and Corporates** provide strategic oversight, data, innovation and commercial expertise to support sustainable waste management initiatives and industry wide adoption.
- **Transport providers and booking platforms** contribute to managing visitor flow and can support pre-visit education on waste management responsibilities.
- **Queensland Health and Land Councils** contribute to ensuring health standards and cultural site protection are maintained through effective waste management practices.

Challenge solution

Outcomes desired

The desired outcome is the delivery of an innovative, scalable solution that improves waste management and actively promotes responsible visitor behaviour across Queensland's remote ecotourism destinations.

Technical and/or regulatory considerations

The solution must:

- be affordable and avoid over-reliance on costly or proprietary systems.
- be convenient and easy to use.
- be suitable for remote locations that may have limited or no access to connectivity or mainstream infrastructure.

Design benefits

The solution must:

- be scalable, adaptable and future-ready
- be inclusive, accessible and suitable for diverse user groups.

The solution should:

- consider future waste capacity needs to accommodate the expected growth in Queensland's tourism industry
- consider design principles for a minimal waste experience for visitors and opportunities for closed loop systems or integration with closed loop systems
- be climate resilient to ensure it is appropriate and can be reliably implemented at remote ecotourism destinations across Queensland.

Sustainability and implementation

- be cost-effective, fully funded and achievable with clear delivery milestones and no risk of partial or incomplete implementation
- be sustainable and environmentally responsible, minimising ecological impact.

How to apply

Applications can be submitted via the link [here](#) and should include the following:

- A clear description of the solution, including its key features, benefits and value proposition.
- A roadmap for implementation, including timelines, resources and milestones.
- A plan for measuring the impact and success of the solution, including metrics and evaluation criteria.
- A budget that outlines the financial requirements for implementing and maintaining the solution.
- A summary of the team's qualifications and experience, including relevant skills and expertise.

Shortlisted applicants will be invited to pitch their solutions to an assessment panel and the successful applicant will enter a contract and pilot their solution with the challenge owner.

Successful applicant

The winning proposal will be selected based on its innovation, feasibility, impact and alignment with the challenge objectives. The successful applicant will receive grant funding of up to \$100,000 (excluding GST) to develop and pilot their proposed solution for up to 6-8 months alongside the Tourism Division.

Project duration

The duration of the project is estimated to be up to 6-8 months. If a suitable solution to the challenge is found, project commencement is most likely to start in June 2026.

As part of the assessment process, shortlisted applicants will be notified and invited to a Solution Presentation session on 20 May 2026. This will be an opportunity for you to present your proposed solution (either in person or remotely) to the Challenge assessment panel.

Presentations are expected to be up to 20 minutes long, with time afterwards for Q&A. Full details will be provided in due course.

More information

The Private Sector Pathways (PSP) program aims to solve corporate challenges with solutions generated by proven innovative Queensland small to medium enterprises and scaleups. For more information about the Challenge, contact the DETSI Innovation Private Sector Partnerships team at partnerships2@detsi.qld.gov.au.

Further information about DETSI strategies can be found at:

- [DETSI Strategic Plan 2023-27](#)

Join us in this endeavour to improve waste management, promote positive behaviour change and help realise Queensland's ecotourism goals.

Further information can be found at:

- [Ecotourism - Queensland's Tourism Future | Queensland Government](#)
- [45 by 45: Getting Ecotourism Moving in Queensland | Tourism | Department of the Environment, Tourism, Science and Innovation, Queensland](#)
- [45 by 45: Getting Queensland Ecotourism Moving – Queensland's ecotourism policy](#)