



CALLING ALL ECO ENTREPRENEURS!

2022 ECO CHALLENGE

Challenge Overview

The new Reef Guardian Schools Eco Challenge aims to build student capacity for eco-entrepreneurship, inquiry learning, real-world problem solving, and STEAM (science, technology, engineering, arts, and mathematics) innovation.

The focus of the challenge is for students to explore the current and future issues facing the Great Barrier Reef and its connected ecosystems, and work together to develop an eco-friendly idea that could help protect the Reef for future generations. It could be a sustainable product, service, app, or technology for use in your school, home, or local community. Students will work in teams consisting of two to four people and will prepare a two-minute video pitch to explain how their business idea will help address the issue they have identified. Teams can only submit one video pitch.

The Eco Challenge can take place in the classroom, or as an extracurricular activity for interested students. Teachers (or Homeschool educators) must register their student teams by completing the [Eco Challenge registration form](#).

Please note: Your personal information will be collected by the Great Barrier Reef Marine Park Authority (GBRMPA) for the Reef Guardian School Eco Challenge. We will only use your contact details and any other personal information that you give us for this purpose and will not disclose it without your consent, except where we are required to do so by an Australian law, a court/tribunal order or in accordance with the *Privacy Act 1988*. For further information on our privacy policy and complaint procedure please read our Privacy Policy at <http://www.gbrmpa.gov.au/home/privacy>.

Teachers/supervisors that register teams will receive an email invitation for their students to attend a virtual presentation by an Australian entrepreneur to learn how they turned an idea into an eco-friendly business.

Key Dates

Challenge starts: Monday 15 August 2022

Challenge ends: Monday 31 October 2022, 4:00pm Australian Eastern Standard Time

Cost

Free for all teams to enter.

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Tips on how to present your pitch

We understand that 2 minutes is not a lot of time to present your eco-friendly business idea, which is why is which you might want to give your pitch a structure.

- Firstly, get straight to the point. Your introduction should engage the audience with what the issue is and why action needs to be taken.
- Describe how your eco-friendly idea will address the issue.) This is where your team can discuss how STEAM skills have been applied to come up with an innovative solution. (*Remember, your idea does not need to solve the issue – even small positive actions count towards the bigger picture*).
- Finally, discuss how your business idea will be sustainable and not just a fad (and no, we do not mean a FAD – a fish aggregating device.)

“Every pitch is unique. You need to be very clear as to what your problem is, how your product solves that problem and this all needs to be tailored to the audience.”

Sharon Ferrier (Apr 23, 2019) [Perfecting the Pitch - Persuasive Presentations](#)

Uploading your video pitch

Upload your video pitch to YouTube, Vimeo, or your school’s social media page and email the link to reefguardians@gbrmpa.gov.au before the closing date and time so it can be included for judging.

Video Pitch Judging

Each video pitch will be judged on the following aspects:

- Video pitch length does not exceed the two-minute timeframe
- The team of students has identified a current or pending issue relating to the Great Barrier Reef and/or its connected ecosystems that could be addressed through the development of a sustainable product, service, app, or technology.
- The business idea demonstrates application of at least one aspect of science, technology, engineering, arts, and/or mathematics.
- The idea demonstrates innovative thinking

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Winning Entries

Winners will be announced the week after the submission deadline. Teachers/Homeschool educators from the winning submissions will be notified by phone and/or email. The winning submissions will appear on the Great Barrier Reef Marine Park Facebook and Reef Guardian Schools Educator Network Facebook page.

A regional winner will be selected by a panel of experts from Reef Guardian Councils and will receive a free virtual learning experience session for their class, a certificate, and a prize pack (valued over \$200). The overall winner will then be selected by the Reef Authority's Chief Scientist and receive a School Solar Buddy Class Pack (valued at \$875), a free virtual learning experience, a certificate, and a prize pack of existing Reef Authority collateral (in-kind contribution ~\$600).

(The prizes are not transferrable and are not redeemable for cash.)

Getting students started

Suggested activities on how to get started with the challenge are provided below:

1. Check student understanding on key words and terms such as:
 - Innovative ([using new ideas or methods to improve how something can be done](#))
 - Eco-friendly ([not harmful to the environment, or trying to help the environment](#))
 - Sustainable ([using methods that do not completely use up or destroy natural resources](#))
 - Entrepreneur ([someone who attempts to make a profit by starting a business](#))
 - Eco-entrepreneurship ([the act of consciously addressing an environmental or social issue through an entrepreneurial venture which creates a sustainable outcome, both financially and environmentally](#))
2. Ask students to write down a list of what they think are the main issues affecting the Great Barrier Reef. (*We have included some background information about the threats below*)

The [Great Barrier Reef Outlook Report](#) (2019) highlights 4 main threats: *climate change, land-based run off, coastal development, and impacts from direct use of the Reef ecosystem*. Other threats identified include, but not limited to:

- Illegal activities (such as removal or damage of artefacts, scar trees, middens, fish traps)
- Marine debris (such as discarded fishing gear, ghost nets, plastics)
- Noise pollution (both above and below water)
- Outbreaks of Crown of Thorns Starfish
- Oil or Chemical spills
- Wildlife disturbances (from snorkeling, diving, fish feeding)
- Vessel strikes (injuries to wildlife)

There are 19 [Reef Guardian Councils](#) between Bundaberg and Cooktown that undertake a range of environmentally sustainable projects and activities that contribute to looking after the Reef. Some

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common issues across the different catchment areas that negatively impact the health and resilience of the Reef include:

- Discarded fishing hooks
- Rubbish floating around marinas
- Illegal dumping of rubbish on beaches and in wetland areas
- Unauthorised vehicles and motorbikes on the beach
- Illegal vegetation clearing on foreshores
- Barriers preventing fish migration between freshwater and marine habitats e.g., aquatic weeds, human-made barriers like culverts.

3. Introduce students to examples of eco-entrepreneurship and examples of innovative solutions to real-world issues using the stimulus videos/articles below:

- YouTube: <https://www.youtube.com/watch?v=rc8PA8uMPcg> (2min,33s)
Related article: [Fishing for plastic \(unep.org\)](http://www.unep.org)
- YouTube: <https://www.youtube.com/watch?v=qDEvcdDXBw> (5min,54s)
Related article: [The eco-entrepreneurs waging war on plastic pollution in oceans - CNA \(channelnewsasia.com\)](http://www.channelnewsasia.com)

4. Choose one of the issues students have listed from question 2 or choose an issue mentioned in the background information section above and ask students to discuss how this issue affects the Reef, its connected ecosystems, and the species that live there?

5. Use the following table and give students time to investigate a range of sustainable products, services, apps, or technology that are currently being used to help the environment.

Product	Service	App	Technology
e.g., Reusable shopping bags	e.g., Recycling bin collection	e.g., Green Caffein – swap n go coffee cups	e.g., Solar panels

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Additional stimulus

ABC News: [Plastic bottle lids inspire 3D-printed prosthetic limbs, artworks, and future leaders](#)

CSIRO Blog: [WeedScan, a new app for identifying weeds](#)

CSIRO Blog: [World's worst litter hotspots](#)

CSIRO Blog: [Earth Challenge 2020 - the app to map plastic pollution](#)

CSIRO ECOS: [Could seaweed replace plastic?](#)

Reef Tube: [All hail the mighty Triton Snail! | Great Barrier Reef Marine Park Authority](#)

World Wildlife Fund YouTube: [How To Save Our Coastal Seas](#)

The Kid Should See This website: [Mangroves + Oysters + Earthen Dikes = Eco Engineering](#)

The Kid Should See This website: [The Ocean Cleanup technology and challenges explained](#)

The Kid Should See This website: [Ocean Confetti, a MinuteEarth explainer about challenge of micro-plastics](#)

The Kid Should See This website: [The Life of a Plastic Bottle](#)

Compostable phone cases (Shells Come Home program) - <https://www.itto.com.au>

Giant animal sculptures made from beach plastic - [Washed Ashore – Art to save the sea](#)

[UNDERWATER INSPIRED BOTTLE TOP MURAL ON SHOW AT STAR OF THE SEA - Gladstone News](#)

Australian Curriculum

The Eco Challenge has been developed by the Great Barrier Reef Marine Park Authority through the Reef Guardian School program to encourage inquisitive learners to explore topics of interest within the broad context of 'protecting the Great Barrier Reef.' The open nature of the challenge supports a variety of [Australian Curriculum](#) links and the [United Nations Sustainable Development Goals](#) that can be incorporated across multiple year levels. The following descriptions are included to guide the learning outcomes of the challenge.

Science Understanding

- Living things depend on each other and the environment to survive ([ACSSU073 - Scootle](#))
- Living things have structural features and adaptations that help them to survive in their environment ([ACSSU043 - Scootle](#))

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- The growth and survival of living things are affected by physical conditions of their **environment** ([ACSSU094 - Scootle](#))
- Interactions between organisms, including the effects of human activities can be represented by food chains and food webs ([ACSSU112 - Scootle](#))

Mathematics - Statistics and Probability

- Identify and investigate issues involving **numerical data** collected from primary and secondary sources ([ACMSP169 - Scootle](#))

Geography 'Water in the world' unit

- Classification of **environmental resources** and the forms that water takes as a resource ([ACHGK037 - Scootle](#))
- The way that flows of water connects places as it moves through the **environment** and the way this affects places ([ACHGK038 - Scootle](#))

Economics and Business

- The ways consumers and producers interact and respond to each other in the market ([ACHEK017 - Scootle](#))
- Characteristics of entrepreneurs and successful businesses ([ACHEK019 - Scootle](#))
- Apply economics and business knowledge, skills and concepts in familiar and new situations ([ACHES025 - Scootle](#))

Media Arts

- Plan, structure, and design media artworks that engage audiences ([ACAMAM069 - Scootle](#))

Design and Technologies

- Investigate the ways in which products, services and environments evolve locally, regionally and globally and how competing factors including social, ethical and sustainability considerations are prioritised in the development of **technologies** and designed solutions for **preferred futures** ([ACTDEK029 - Scootle](#))

English

- Use interaction skills when discussing and presenting ideas and information, selecting **body language**, **voice** qualities and other elements, (for example music and sound) to add interest and meaning ([ACELY1804 - Scootle](#))
- Plan, rehearse and deliver presentations, selecting and sequencing appropriate content and multimodal elements to promote a **point of view** or enable a new way of seeing ([ACELY1720 - Scootle](#))

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United Nations Sustainable Development Goals



6 CLEAN WATER AND SANITATION

Goal 6: [Clean Water and Sanitation](#)

Ensure availability and sustainable management of water and sanitation for all.

[PDF Resource](#)



12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Goal 12: [Responsible Consumption and Production](#)

Ensure sustainable consumption and production patterns

[PDF Resource](#)



13 CLIMATE ACTION

Goal 13: [Climate Action](#)

Take urgent action to combat climate change and its impacts

[PDF Resource](#)



14 LIFE BELOW WATER

Goal 14: [Life Below Water](#)

Conserve and sustainably use the oceans, seas, and marine resources.

[PDF Resource](#)