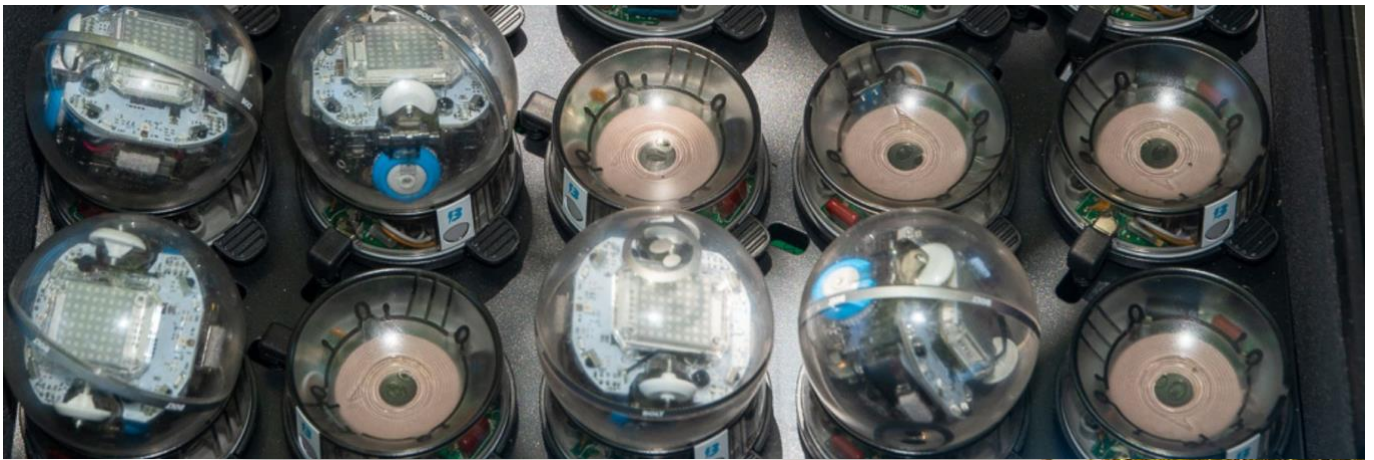




ENERGY BREAKTHROUGH

POWERED BY IMAGINATION

2024 SCHOOLS HANDBOOK





VERSION 2024.02

Changes for 2024 are highlighted and underlined in blue throughout this Handbook.

Areas that the Energy Breakthrough organisers wish to emphasise are highlighted in bold type.

Program Partners



Hall of Fame

Norm Rasmussen

Inducted 2014

Bob Osborne OAM

Inducted 2017

Ian Rogerson

Inducted 2018

Bruce Reiffel

Inducted 2018

Judy Parker

Inducted 2018

Tricia Walsh

Inducted 2018

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VISITOR INFORMATION, TOURISM AND ACCOMMODATION

Central Goldfields Visitor Information Centre

Phone: 1800 356 511

Email: visitorinfo@cgoldshire.vic.gov.au

Website: www.visitmaryborough.com.au

WELCOME TO THE 2024 ENERGY BREAKTHROUGH!

Dear Team Manager, student, teacher, parent or supporter,

We thank you for downloading this Schools Handbook for the 2024 Energy Breakthrough (EB).

Please note that this document provides general information for schools participating in the Energy Breakthrough program in 2024. Please be read this in conjunction with the specific 'Information Kit' for each category:

- HPV and EEV Trial Regulations
- HPV and EEV Vehicle Specifications
- Pushcarts Info Kit
- Junkyard Challenge Info Kit
- Robotics Info Kit
- TRYathlon Info Kit

Some key points for 2024 that we wish to highlight:

- **[TRYathlon Schedule Updated: The TRYathlon schedule has now been further revised for 2014. Please review the Event Schedule for details.](#)**
- **Entries:** As per 2023, there is no longer a need for Team Managers' to enter *immediately* at the moment when entries open. Instead, we will be holding an application period from 13th March to the end of Term 1 for schools to submit their entries at their own pace. These entries will then be reviewed by the Education Team, and schools will be advised and invoiced early in Term 2 for accepted entries online. There may be some correspondence for some schools during this time. Overall, we hope this change of process is a relief to all Team Managers.
- **Overall the Schedule remains as per 2023:** There were a number of major changes to the event schedule for 2023 and, given the generally positive feedback, we intend to retain this approach for 2024.
- **No Video Display & Presentation option for Secondary HPV and EEV teams:** After a two-year trial, we have elected to no longer offer a Video Display & Presentation option for Secondary HPV and EEV teams. These teams will now need to all present in-person at the event. Video will remain the sole way for all Pushcart teams to complete their Display & Presentation component.
- **Power Reduction Aims:** We are aiming to reduce our school's reliance on mains electricity in their campsites and in pit lane at our event. Our aim is to be free of mains electricity for camping by our November 2025 event.

Support is Available

We have an experienced and dedicated team of coordinators ready to support schools like yours on their journey from now until they reach Maryborough in November. This can be done through phone calls, emails, face-to-face visits, 'Test and Tune' Days and workshops.

Good luck as your school embarks on the search for an 'Energy Breakthrough'!



Nigel Preston

Education Team Leader

Energy Breakthrough

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1. ABOUT THE ENERGY BREAKTHROUGH



“I drive a Porsche 928. Enjoy it tremendously.

But I can see huge changes coming, with growing awareness of social and environmental responsibilities. We can’t keep on having inefficient cars.

**I don’t believe the world can go on consuming fuel recklessly. Wasting fuel.
Not just because of diminishing reserves but what it is doing to the planet.
Spewing out pollution.**

**Vehicles have to be far more sensible in payload, much lighter,
retain passenger comfort because you do need that, and be much safer.**

It needs another breakthrough ...”

~ Ralph Sarich, Wheels Magazine, February 1991

The Energy Breakthrough is a joint initiative of the Country Education Project (CEP) and the Central Goldfields Shire Council (CGSC).

Since 1991, the Energy Breakthrough provides opportunities for students, teachers, parents and local industry to work together to design and construct a vehicle, a machine or innovation in technology that will represent an ‘energy breakthrough’.

The program encourages participants to examine and use the latest technology while considering its impact on the environment and the way people live locally and globally.

The Energy Breakthrough isn’t just a once-a-year event.

School groups work throughout the year to design, build and test vehicles or machines within detailed specifications. It requires a team effort and an across-the-curriculum approach. These groups then bring their vehicles and machines to Maryborough in the Central Goldfields Shire, Victoria for a huge celebration in which they can demonstrate and trial them in action.

Video Resources:

“Energy Breakthrough explained in less than 2 minutes”

Watch on YouTube: <https://www.youtube.com/watch?v=XQv0AAV5rgk>



“Energy Breakthrough – Powered By Imagination”

Watch on YouTube: <https://www.youtube.com/watch?v=T20blm5z9TM>



2. PROGRAM ELEMENTS

There are three program elements unique to the Energy Breakthrough. These are explained in greater detail throughout this Handbook.

1/ Display & Presentation

A presentation to a judging panel for all team members to demonstrate their knowledge and understanding of their entry. There are options in some categories to submit a video prior to the event.

2/ Design & Construction

An formal conversation assessing the student's understanding of the vehicle and the concepts involved in its design and construction.

3/ Trials

Thousands of students ranging in age from nine to 19 push, pedal and pilot carts, human powered vehicles and energy efficient vehicles in dynamic tests that can last just a few minutes or as long as 24 hours.

"Each year we get to watch kids surprise us in what they achieve in terms of fitness, self confidence and drive. We quite often see couch-potatoes develop in to active and engaged kids waiting to improve and be involved.

Without fail the Energy Breakthrough changes kids for the better every year."

~ Roger Byron, White Hills PS, Team Manager

3. AIMS AND LEARNING OUTCOMES

The Energy Breakthrough Program aims to ...

- Provide an excellent technology project for students from Prep to VCE level
- Encourage young people to explore solutions to environmental and transport issues
- Provide an opportunity for schools and communities to work and learn together
- Provide an opportunity for women and girls to participate in what has traditionally been a 'male' dominated area of the curriculum
- Be a fun program with real world challenges
- Offer students opportunities to explore and address vehicle design, driving skills and vehicle and passenger safety issues.

The Energy Breakthrough encourages and supports learning that ...

- Is fun and engaging.
- Is student focused.
- Involves hands-on activities
- Requires active problem solving – on 'real life' issues (authentic).
- Is collaborative – builds teamwork skills.
- Creates links with the community.
- Requires students to act on their learning.
- Involves celebration.
- Values and requires different skills, knowledge, (inter-disciplinary).

4. CHILD SAFETY

The Energy Breakthrough is committed to the care, safety and wellbeing of all children and young people attending our event. We work in partnership with schools to keep participants safe from harm, including all forms of abuse in our environment, on site and online.

Our practices take into account relevant legislative requirements within the state of Victoria, including the specific requirements of the Victorian Child Safe Standards as set out in Ministerial Order No. 870.

You can view the Central Goldfields Shire Council's Child Safe Policy at:

<https://www.centralgoldfields.vic.gov.au/Council/Policies-Plans-Strategies-and-Documents/Council-Policies>

5. SAFETY AND INSURANCE

All Team Managers must ensure they fulfil all Victorian Education Department requirements (including insurance), as you would for all school excursions.

This includes the completion of Working with Children Checks and, or police checks of ALL attending parents and volunteers, as per the requirements of the Working with Children Act.

Please see: <https://service.vic.gov.au/services/working-with-children>

Excursion staff

Excursion staff must be approved by the principal or school council (as outlined in Excursions – [Planning and Approvals](#)) and may include:

- teachers employed by the Department or school council
- other adults on a volunteer or paid basis such as:
- parents or carers
- education support class officers
- community members
- trainee teachers
- campsite staff
- specialist instructors for excursion activities.

Important: school students cannot be used as excursion staff.

Excursion staff who will provide supervision of students and who are not registered teachers **must** have a Working with Children Check.

Please see:

<https://www2.education.vic.gov.au/pal/excursions/guidance/approvals>

Please note: While every precaution is taken to make the event as safe as possible (including scrutineering vehicle checks, safety equipment first-aid facilities and on-going safety checks), no responsibility can be taken for teams.

6. 2024 TIMELINE OF KEY EVENTS

Term 1

Monday 5 February

- Schools Handbook Released
- HPV and EEV Vehicle Specifications Released
- HPV and EEV Trial Regulations Released

Monday 26 February

- Pushcarts Specifications Released
- Robotics Specifications Released
- Junkyard Challenge Specifications Released

Wednesday 13 March at 12noon

- Entries open for all categories

Term 2

- Entries reviewed, accepted and invoices sent out to schools where entries have been accepted.
- Test N Tune Day (date and location tba)
- Discussion and workshop with TRYathlon teams as to the make-up of the TRYathlon schedule and activities. (date and location tba)

Term 3:

- Volunteer recruitment begins via MyEB portal.
- Pit Requests and Camping Forms open via MyEB portal.
- Student and Team Member forms open for submission via MyEB portal.

Friday 20 September - Last Day of Term 3:

- Entries close for all Categories.

Term 4:

- Test N Tune Day (date and location tba)

Friday 11 October

- Pit Requests and Camping Forms close.

Monday 18 November – at 5pm

- Student and Team Member forms close for submission via MyEB portal.

The 2024 event dates: Wednesday 20 November – Sunday 24 November 2024

7. CATEGORIES, CLASSES AND CONDITIONS

Categories

The Energy Breakthrough has a series of categories designed to cater for different levels of technology application and understanding.

Teams are entered first into 'Categories' and then into Classes depending on the type of vehicle and team composition.

The 'Categories' of participation are:

1. Robotics
2. Junkyard Challenge
3. Pushcarts
4. Human Powered Vehicles (HPV)
 - a. Primary
 - b. Secondary
 - c. TRYathlon
5. Energy Efficient Vehicles (EEV)



Classes

Within the five categories, teams are entered into classes based upon the participating students' school year level, gender and school size.

CLASS	YEAR LEVEL	TEAM SIZE	GENDER REQUIREMENTS	SCHOOL SIZE
A	Years 1 - 6	Min 4 – Max 10	At least 50% female.	N/A
A1*		Min 6 – Max 10		Schools with an enrolment of 200 or less
A2*		Min 6 – Max 10		Schools with an enrolment of more than 200.
B	Years 7 – 10	Min 6 – Max 8		N/A
B1	Years 7 - 8			
B2	Years 7 - 10			
C	Years 7 - 12			
All Female	Years 7 - 12		Female only	
Open	Up to Year 12		No gender requirements.	

Team Composition and Student Eligibility

- All entries are to be team entries and must consist of current school students. (Young people enrolled in a school or young people enrolled in a secondary school certificate/program and under 20 years of age as at 31 December).
- [A school may recruit the balance of team members from another school to form a team, however, they must receive special prior approval by organisers to do so. This provision is aimed at schools which do not have sufficient enrolled students within their own school to form the minimum number of team members required for an entry. Such student/s must complete and submit a letter of support prior to 'Check-In' at the event.](#)
[Please contact us at enquiries@eb.org.au](mailto:enquiries@eb.org.au) for a copy of the proforma letter.

School size and Type

- Classification for schools entering the A1 and A2 classes will include the TOTAL school enrolment, not the Primary component of a school. This classification will be made by the organisers using information published on the MySchools website.
- Only school-based teams or teams representing educational institutions will be permitted to enter.
- [Small schools in the A1 category may request an exemption from the gender requirements. This permission will ONLY be granted in exceptional circumstances. Note: Event organisers - through the Country Education Partnership \(CEP\) - are aware that some small rural schools may only have two male or female students across their entire school. As such they are unable to meet the gender requirements. Please contact us at enquiries@eb.org.au prior to entering to discuss your options.](#)
- [School clusters in rural Victorian settings are well suited to form a combined entry for the Energy Breakthrough. Please contact us at enquiries@eb.org.au prior to entering to discuss.](#)

Categories, Classes and Quotas

CATEGORY	CLASS	CLASS QUOTA	CAT. QUOTA
Robotics	A (Primary)	20	20
	B (Secondary)		
Junkyard Challenge	A (Primary)	15	15
	B (Secondary)		
Pushcarts	A1	30	80
	A2	50	
HPV Primary	HPV A1	25	95
	HPV A2	65	
	New Schools	5	
HPV Secondary	HPV All Female	10	105
	HPV B1	15	
	HPV B2	30	
	HPV C	20	
	HPV Open	25	
	New Schools & Interstate Schools	5	
HPV TRYathlon	TRY A	30	70
	TRY B/C	15	
	TRY All Female	10	
	TRY Open	15	
Energy Efficient Vehicles (EEVs)	Pedal-Electric Hybrid – All Female	25	25
	Pedal-Electric Hybrid – B/C		
	Pedal-Electric Hybrid – Open		
	Electric Vehicle - Open		

Category and Class Caps

- Classes and Categories are filled to the quotas indicated in the table above.
- Where there is not enough capacity, entries will be placed on a Wait List.
- There is an emphasis on all schools that wish to participate having the opportunity to participate.
- [A maximum of four entries per school will be accepted in all Categories, subject to capacity.](#)
- [If there is not sufficient capacity for all four teams from one school, the first three entries will be accepted \(subject to capacity\) and discussions will take place with the designated Team Manager as to the likelihood of the fourth entry being accepted.](#)
- Only **one entry per school** will be accepted in the HPV Open and Tryathlon Open classes.
- Schools that have an existing entry in the HPV Open or Tryathlon Open classes will not be able to enter additional teams into this class.
- For multi-campus schools, category and class caps apply on a 'per campus basis', subject to capacity.

Class changes and penalties

- Teams entered in the HPV B or C classes who request a transfer to the HPV Open class will incur a 50-lap penalty in the Trial.
- Teams entered in the Tryathlon A or B/C class who request a transfer to the Tryathlon Open class will incur a 15-lap penalty in the Endurance Trial.
- There are NO penalties for changing from an HPV Open or TRYathlon Open class to an A/B/C or All Female class.

Guaranteed entry for past winners

- Schools who won their class overall in the previous event, will be entitled to a guaranteed entry for the following year. Team Managers will receive an email to advise of the process.
- If the team accepts the guaranteed entry an invoice will be issued for payment.
- If the previous overall winner of a class does not want their guaranteed entry, this WILL NOT pass onto the second placed team.

Correspondence

- Correspondence regarding the status of entries on a waiting list will be made directly to a Team Manager only. If parents have any questions they must contact their school in the first instance.

8. ENTRY PROCESS AND ENTRY MANAGEMENT

Entries will only be received through the 'MyEB' Portal via the Energy Breakthrough website:

www.eb.org.au

- New Team Managers are encouraged to sign-up to the 'MyEB' Portal at any time to create an account.
- Existing Team Managers are encouraged to sign-in again before entries open to ensure they remember their username and password and that their contact details are correct.
- Team Managers will use the MyEB portal throughout the year to submit and edit Pit Requests, Camping Details, Team Member information and Team Names.

Entry Fees

2024 Entry Fees are as follows:

<u>\$80.00</u>	each Robotics entry.
<u>\$80.00</u>	each Junkyard Challenge entry.
<u>\$400.00</u>	each Pushcart entry.
<u>\$770.00</u>	each Human Powered Vehicle (HPV) entry (including TRYathlon).
<u>\$700.00</u>	each Energy Efficient Vehicle (EEV) entry.

Entry Payments

- All entry fees are GST inclusive.
- Entry fees include access to on-site facilities, activities, entertainment, planning and administrative expenses.
- Only online entries are accepted.
- Payment must be received with 14 days from date of invoice.
- An entry will not be confirmed until payment is received.
- Invoices can be paid by Electronic Funds Transfer (EFT) or Cheque. Details for payment are included on the Invoice.
- Team Managers will be notified via email when a payment has been processed.
- If, after 14 days, payment has not been received, an entry will be dropped onto the Waiting List.
- No refunds are provided except for teams who are placed on a Waiting List and are not offered a place in the event.

9. ASSESSMENT

Overview

The Energy Breakthrough is unique in that most teams must compete across three areas of assessment: Design and Construction, Display and Presentation and Trials.

[Please note that the Junkyard Challenge and Robotics teams do NOT complete the Design & Construction and Display & Presentation assessments.](#)

All sections must be attempted by all teams, and points are awarded in the following sections:

Human Powered Vehicles (HPV) and Energy Efficient Vehicle (EEV) teams

SECTION	SCORE
Design & Construction	25%
Display and Presentation	25%
Endurance trial	50%
Total	100%

HPV TRYathlon

SECTION	SCORE
Design & Construction	20%
Display and Presentation	20%
Time Trial	15%
Obstacle	15%
Endurance trial	30%
Total	100%

Pushcarts

SECTION	SCORE
Design & Construction	30%
Display and Presentation (Pre-Event)	30%
Endurance trial	15%
Time Trial	15%
Sprint	10%
Total	100%

Junkyard Challenge and Robotics

Trial	100%
Total	100%

10. DESIGN AND CONSTRUCTION



Above: Students complete this Design & Construction assessment with judges (in blue on right)

Purpose

The focus of the Design and Construction is to assess the student's **understanding** of the vehicle and the **concepts** involved in its design and construction.

Note: A one point improvement in this assessment area can equate to an additional **20 laps** on track in the trial elements, based on historic records.

Junkyard Challenge and Robotics teams do NOT complete the Design & Construction and Display & Presentation assessments.

A one point improvement in the Design & Construction or Display & Presentation components can equate to an additional 20 laps on track in the Trial elements, based on historic records.

Format

At a scheduled time, each team of students will be asked a series of questions by two or three judges.

These questions are framed in an informal 'workshop-style' discussion, where students can point to various aspects of their vehicle to explain the design and construction concepts to the judges.

The students and judges typically stand around the vehicle during this assessment, which typically takes between 20 mins – 25 mins per team.

About the Judges

The judges are all volunteers who are typically:

1. a community representative,
2. a person with an interest in education, technology, and / or engineering, or
3. a past participant of the Energy Breakthrough.

Criteria

As part of the Design and Construction assessment, teams will be scored against the following criteria:

• Effort and input

- This is based on issues such as whether the vehicle bought, made from new, modified from the previous year and to what extent the students were involved in the various aspects of design and construction.
- It is understood that the levels of student involvement in the technical and practical activities related to the design and construction of an entry will vary with age.
- Teams can show design drawings and models to demonstrate work undertaken by students.
- Teams who have simply purchased a recumbent bicycle (complete or in kit form) and carried out basic modifications, will not score as well as teams who have built a vehicle from scratch.
- Consideration will be given to teams who have 'Inherited' a vehicle from previous teams, but who have improved the design and/or construction in some way.

• Innovation and Quality

- How effective/clever the design concepts are,
- the materials used,
- construction methods,
- types of gears, brakes and steering.

• Understanding

- discuss and explain design and construction processes,
- key design concepts,
- the materials,
- components & running set-up.

• Safety: Design and Understanding

- show all rider safety equipment, including each person's gloves, helmets and glasses,
- discuss the use of restraints,
- roll bars,
- rider protection,
- visibility.

• Practicality, Stability & On-road Performance

- vehicle reliability,
- handling,
- lighting.

• Driver Training and Skills Development

- presentation of licences for each team member,
- skills covered in driver training including driving at night, in the wet, etc.

• Understanding of Environmental Issues

- the relationship between transport and issues including greenhouse, air pollution, electric vehicles, and the importance of renewable energy, etc.

• Vehicle Weight

- Weight is an important factor in efficiency.
- HPV's and EEV's will be weighed and scored based on their weight compared to other teams.

11. DISPLAY AND PRESENTATION



Above: Students during their Display & Presentation, with judges in blue on the right.

Purpose

The purpose of the Display and Presentation is for team members to demonstrate their **knowledge** and **understanding** of their entry and the **story** of their journey throughout the year to the Energy Breakthrough.

- This aspect represents 25% of a team's total score in HPV Primary, HPV Secondary and EEV classes.
- This aspect represents 30% of a team's total score in Pushcarts and 20% in HPV TRYathlon.
- **NOTE: Junkyard Challenge and Robotics teams do not complete the Display & Presentation component.**

A one point improvement in the Design & Construction or Display & Presentation components can equate to an additional 20 laps on track in the Trial elements, based on historic records.

“

Details – Pushcart Video Presentations

Pushcarts Only - Video Pre-Event

Duration: Up to 4 minutes

- Each Pushcart team will be required to submit a video of a maximum of 4 minutes in length prior to the event for assessment.
- Pushcart teams do not present in person at the event.
- [This option is ONLY available to Pushcart teams.](#)
- Please see the separate Pushcarts Handbook for specific requirements and criteria

Video Format

The video is to have all students participating and sharing of the student's work in the visual display.

Students are encouraged to utilise any media skills they have but it is important to understand that it is **criteria of Display and Presentation** that will be assessed and not their **media skills**.

Video Deadline:

[All Pushcart video submissions are to be uploaded by 5.00pm on Friday 1st November.](#)

Video Submission

Videos will be submitted via the MyEB Portal.

The Energy Breakthrough team will work with schools to ensure that technology is not a barrier to participation for schools.

Publication

The top three video presentations will be published on the Energy Breakthrough website. Permission will be sought from the relevant schools prior to publication.

Details – In-Person Presentation

HPV, TRYathlon and EEV only - In-Person At Event

Duration: 20 minutes, plus 5 – 10 minutes of Q&A

- Each team will be required to present for a maximum of 20 minutes to a panel of judges.
- This will be followed by 5 - 10 minutes of questions from the judges.
- [Please note in-person presentations are NOT available to Pushcart teams in 2023.](#)

Space:

Each team is provided an approximately 4 metre by 4 metre space to present within, with one wall to affix display materials.

Schedule:

A specific time for each team to complete their Display & Presentation will be published prior to the event. Each team is allocated time to set up their display prior to their time.

Event schedules will require teams to have arrived and be available from 12 noon on the day of the assessment. Late arrivals will be accepted only by negotiation.

Technology Use & Distractions

Schools are encouraged to be innovative in their presentations. However, care needs to be taken to ensure that 'distractions' do not overtake the real purpose, that is, 'students demonstrating their understandings'.

To reduce interference from nearby panels, no public address or small music (CD) systems will be allowed without prior approval of the Display & Presentation Coordinator.

About the Judges

The judging panel are all volunteers who typically consists of three members:

- a community representative,
- a young person with an interest in education and/ or technology, and
- an education/teacher representative.

These judges will ask the questions of team members following their formal presentation.

Participation

All registered team members are required to participate equally in the presentation. Teams may choose to include up to two (2) additional students (i.e. support crew) to join their registered team members in their presentations. However, the presentation roles must still be shared equally by all participating team members.

Criteria – both in-person and Pushcart

The assessment covers oral component and the visual display.

Judges are asked to look for evidence of:

- Student involvement.
- Levels of participation.
- Team work and enthusiasm.
- Individual contributions.
- Understanding of the project.

It is understood that the levels of student involvement in the technical and practical activities related to the design and building of an entry will vary with age.

Oral Component

The oral component of the Presentation will be assessed according to:

This oral report should relate to the development of the team entry, including ideas that did not work and why.

Presentation Style:

- The introduction and outline of the presentation;
- awareness of the audience;
- style of presentation (reading from notes or reciting);
- clarity of language;
- use of materials,
- diagrams and models covered.

Team Work:

- The effectiveness of leader's role; sharing of knowledge and responsibility in the team;
- acknowledgment of individual team members' role;
- team attitude and enthusiasm, and
- the extent to which the presentation reflects the students' own work.

Knowledge and Understanding:

- Knowledge of the aims and values of the Energy Breakthrough;
- team planning;
- preparation and training, and
- technical aspects of the development of the vehicle.

Development of a Story:

The "story" of the team and the entry throughout the year, including:

- the challenges;
- the preparations;
- the school and community's involvement, and
- the students' achievements.

Visual

The visual display should include photos, videos, models, prototypes etc to explain the involvement of students, school, community and/or industry in the program and the development of their entry.

The visual display will be judged according to:

Layout and Organisation:

The range of visual media and written text depicting:

- vehicle development;
- the arrangement of items;
- the variety of information presented, and
- the acknowledgment of sponsorship/financial support received.

Quality of Display:

The effective use of the following to convey messages:

- diagrams and drawings,
- models,
- photos,
- text, etc

12. TRIALS AND SPECIFICATIONS



Above: The start of the 24 Hour HPV Secondary and Energy Efficient Vehicle Trial.

Each category has a specific 'Handbook' that covers the vehicle, cart or creations specification and Trials details.

Vehicle Safety: Scrutineering

- All entries must complete scrutineering, which entails a safety inspection to ensure the vehicles are safe and meet all the relevant design specifications.
- These checks ensure that the vehicle is safe for the occupant, other teams and spectators.
- Where entries do not comply with specifications, or are considered unsafe, scrutineers will provide assistance and/or direction with work required in order to comply.
- Schedules and locations for teams to complete scrutineering and other judging assessments will be published prior to the event.
- Organisers will assume that teams will have arrived in Maryborough and be available from 12 noon on the day of their assessment. Late arrivals will be accepted only by negotiation.

The Trials

In this section, the operation of each entry will be tested.

Human Powered Vehicles and Energy Efficient Vehicles

Secondary Human Powered and **Energy Efficient Vehicles** will participate in a practice session and a 24-hour trials on a street circuit in Maryborough.

Primary HPV teams will participate in a practice session and 14-hour trial on a street circuit in Maryborough. More details are available in the HPV & EEV handbook for this category.

TRYathlon

Tryathlon teams will tackle a Time Trial, Obstacle Course and an Endurance Trial.

[Please note that the TRYathlon category may be modified for 2024 based on consultation with schools.](#)

More details are available in the specific TRYathlon handbook for this category.

Pushcarts

Pushcart teams will tackle a Sprint, Obstacle Course and an Endurance Trial.

More details are available in the specific Pushcart handbook for this category.

Robotics

Robotics teams will code a number of Sphero Robots in a new challenge.

More details are available in the specific Robotics handbook for this category.

Junkyard Challenge

Junkyard Challenge teams use an array of 'junk' materials to create a contraption that solves a problem within 75 minutes.

More details are available in the specific 'Junkyard Challenge' handbook for this category.



Above: A student collects materials during 'The Junkyard Challenge'.

13. CURRICULUM INTEGRATION & RESOURCES

The Energy Breakthrough is an education-first program for schools of all shapes and sizes. It has vast benefits across a wide range of curriculum areas, both formally and informally.

“Through the Energy Breakthrough, students were given responsibility for their own learning, teachers broke away from the conventional classroom practice and found that it worked, parents were more closely involved in the educational development of their child and community members contributed time, expertise, goods and money.”

~ Deakin University, Energy Breakthrough Evaluation – 1997

Schools undertake the Energy Breakthrough in a variety of ways, ranging from an out of school activity to the program being a central part of the formal curriculum. In whatever way the program is undertaken it can contribute to students’ learning in a wide range of areas.

Curriculum Areas

Teachers and students have told us that the Energy Breakthrough has helped to reinforce students’ learning in:

- STEM – Science, Technology, Engineering & Maths (in particular through the Design & Construction and Trials)
- Health & Physical Education, Nutrition (Trial aspects)
- English, the Arts & Drama (Display & Presentation)
- Computer science and coding (Robotics)
- Electrical engineering in our Pedal+Electric hybrids and All-Electric Energy Efficient Vehicles (EEVs)
- Electrical engineering also with horn and light systems for Human Powered Vehicles (HPVs)
- Sustainability (Program-wide lessons)

The Energy Breakthrough can be used as a ‘vehicle’ to address a wide range of the ‘personal and social capability’ components of the Victorian Curriculum.

View more: <https://victoriancurriculum.vcaa.vic.edu.au/personal-and-social-capability/curriculum/f-10#level=7-8>

Interpersonal Benefits

The interpersonal benefits for students are immense, too. Both teachers and students have told us that through the Energy Breakthrough the students have gained experience in:

- How to work as part of a team / collaboration
- Leadership
- Sense of belonging to a team
- Increased fitness and nutrition
- Budgeting
- Time management
- Improved confidence
- Increased awareness of renewable energy and issues facing society
- Improved relationships between staff and students
- Exploring relationships and diversity
- Resilience
- Decision making skills

- Networking with local community, businesses and other schools
- Recognition and expression of emotions

“Students learn about the environmental impact of vehicles, alternate modes of transport, public speaking skills, determination to see a task through, healthy eating, teamwork, fitness, and a range of other personal & social learning.

An example of this is a highly disengaged Year 5 student who is on an alternate timetable. He was able to assist with pulling the trikes apart, running electrical wiring, working with a mechanic so that they are mechanically sound, and spray paint the trikes ready to race.

The Energy Breakthrough has been the only program that has engaged this student, motivated him to come to school and taught him to communicate with peers and adults alike.”

~ Sonia Rodgers, Teacher

Primary School Level

Did you know that over 60% of the schools that participate in EB each year are public primary schools?

That’s right! And they are out there tackling the widest range of experiences and opportunities on offer: Robotics, Junkyard Challenge, Pushcarts and Human Powered Vehicles. The only activity they cannot do is our Electric and Pedal-Electric Hybrid vehicles (they have to wait for high school for that!)

Big, small, rural, regional, metro, public, independent, catholic or specialist: we welcome all comers to participate in the Energy Breakthrough.

On our website at [eb.org.au](https://www.eb.org.au) on the ‘Curriculum’ page (<https://www.eb.org.au/eb-in-schools/>) there’s some ideas about how YOU can incorporate Energy Breakthrough into your primary school:

- Pushcart Design And Engineering Challenge
(Courtesy of Katamatite Primary School)
- Robotics Program Planner
(Courtesy of Katamatite Primary School)
- Pushcarts / Human Powered Vehicle Program Planner
(Courtesy of Avoca Primary School)

Secondary School Level (Years 7 – 10)

Engaging students in STEM in Years 7-10 can be fun and rewarding, especially when you have a ‘vehicle’ such as the Energy Breakthrough to build the students’ focus around. Whilst acknowledging that schools have different levels of expertise, resources and time available, here are three different models from schools that have implemented the Energy Breakthrough in class in recent years.

On our website at [eb.org.au](https://www.eb.org.au) on the ‘Curriculum’ page (<https://www.eb.org.au/eb-in-schools/>) there’s some ideas about how YOU can incorporate Energy Breakthrough into your 7-10 year levels:

- STEM Program Planners provided by:
 - Crusoe College, Bendigo
 - Weeroona College, Bendigo
 - Toorak College, Melbourne

VCE Level (Years 11 – 12)

The Energy Breakthrough can be implemented at VCE level as a Product Design & Technology (PD&T) subject, alongside metals, electronics and woodwork.

One school – Bendigo Senior Secondary College – has been implementing subject as a choice at VCE level since the 1990's.

The class is available to Year 11 students (Units 1 and 2) and Year 12 (Unit 3 and 4) as a separate class, which consists of three contact periods per week : two singles and a double period.

At the beginning of each unit, students select an aspect of the vehicle or pit equipment to design and produce. (i.e. the vehicle is broken up into its individual components and assigned to students.

The same assessments (SAT and SAC's) are completed as other PD&T students such as woods, metals and textiles and students must produce a folio for assessment.

Through this subject, the students focus on the use of high-end materials such as composites (carbon fibre, Kevlar), aluminium and high grade steels (titanium).

Students investigate high end manufacturing and have been on tours of such facilities, as well as excursions to participate in the Australian Formula One Grand Prix schools STEM-program titled 'Driving Learning.'

Class members need to collaborate with other students so that the components of the vehicle are compatible and whilst there is an emphasis on students who do the PD&T class have priority in team composition, some choose to be pit crew or support crew at the event.

Interested in implemented Energy Breakthrough in your VCE program?

Please contact us via enquiries@eb.org.au and we can talk you through the steps.

14. SCHOOL TEAM SPONSORSHIP

Individual entries are encouraged to negotiate sponsorship with local businesses or service groups. Such support must be consistent with the health and welfare of young people and the overall objectives of the Energy Breakthrough.

As a school-based, education event, entrants are prohibited from advertising products or services not suitable for young people, including but not limited to alcohol and gambling.

There are enormous promotional opportunities for sponsors of teams and the event itself.

Entrants should ensure that sponsors receive a good return for their investment. This includes maintaining a good relationship with sponsors, generating media coverage and reporting back to the sponsors on what their funds have enabled.

If you have any doubts about the suitability of a sponsor, please [contact us](#).

15. THE EVENT DATES AND LOCATION

The Energy Breakthrough will be held from **Wednesday 20 November to Sunday 24 November 2024** at the Lake Victoria Precinct in Maryborough, Victoria.

At Event Check-In & EB Admin Hub

The EB Admin Hub is located at the Princes Park Grandstand (near Park Road). The EB Admin Hub will be your main point of contact with officials throughout the event.

Upon arrival in Maryborough, Team Managers should report to the EB Admin Hub for Check-in, please check opening times in the schedule.

Check-in will involve:

- Welcome and update on the event,
- Confirmation of team details: team member names, support crew, team names, etc.
- Allocation of Team Manager Identification,
- Issuing of team numbers and transponders (if applicable),
- Confirmation of Marshal times,
- Confirmation of Display & Presentation, Design & Construction and Scrutineering times, and
- Emergency Procedures Briefing.

The Team Manager and all members of the team will then report to the marquee near the EB Admin Hub for registration of individual team members.

Wristbands and Identification

- Following check-in, all team managers, team members, students and support crew who are camping on site will be provided with wrist bands for identification. These wristbands are to be worn at all times and assists us in managing the camping grounds.
- All team members must be confirmed at registration to receive a non-removable wrist band for their specific category.
- Wristbands must be collected, with your team members, after check-in from the marquee in front of the EB Admin Hub.

16. MARSHALS

Each year we continue to strive to improve the training of corner marshals at the Energy Breakthrough.

- [Each HPV Primary, HPV Secondary, EEV and TRYathlon team \(not school\) will be required to have at least two trained marshals per allocated time slot on the marshal roster.](#)
- [For example, if a school has two teams, they will be rostered for two timeslots and need to provide two marshals per time slot. The same people can complete each time slot.](#)
- [Each school will be advised of their allocated marshalling time and location via the Energy Breakthrough website prior to the event.](#)

- [All marshals are required to complete the 'Online Marshal Training' via the Energy Breakthrough website prior to the event.](#)
- [Failure to appear at the rostered time and location will result in team penalties.](#)
- [Marshals will be provided with a radio, safety vest, torch, flags, lights and written material all of which must be passed to the next marshal at changeover.](#)

Marshal Training

We have online training materials and information that will assist volunteers to understand their roles and responsibilities as marshals – please ensure your nominated marshals have completed the online training and they have copies of this marshal information.

It is a requirement that ALL corner marshals have completed the online training prior to the event.

What is involved?

Marshal Training Online is a three part process including:

1. [a series of instructional videos \(Watch on YouTube\):](#)
<https://www.youtube.com/watch?v=TN-WiyQgcDI>
2. written Corner Marshal documentation (PDF)
3. an online test (consisting of multiple-choice questions)

Complete the Online Marshal Training now at: <https://www.eb.org.au/marshal-training/>

If volunteer marshals require further assistance or a detailed briefing, they can contact us at enquiries@eb.org.au

If you are experiencing difficulties with the marshal training online system, please email training@eb.org.au

17. ROLE OF THE TEAM MANAGER

[Information in this section relates to Team Managers and any person serving as Proxy for a Team Manager. Each team must have one nominated Team Manager or Teacher over the age of 18 years of age who:](#)

- [Is the official contact point between the event organisers and the Team.](#)
- [Is responsible for completing all necessary team documentation via the MyEB online portal.](#)
- [Is responsible for ensuring each vehicle is compliant with the Vehicle Specifications for scrutineering.](#)
- [Is responsible for ensuring their team members act within the Trial Regulations and the Spirit of Competition during the event.](#)
- [Must be present in their schools' pit area during the Trial and have the nominated contact mobile phone with them turned on and not diverted or switched to message bank.](#)
- [Must be present at the Team Managers' briefing.](#)
- [Has the responsibility of ensuring each rider has all necessary adjustments in their vehicle made before they enter the track especially seat belts.](#)
- [Is responsible for ensuring that all areas used by the team, support crew, staff and visitors are kept tidy and left tidy after the event.](#)
- [Is responsible for ensuring that the team provides trained marshals as required.](#)

18. ACCOMMODATION & CAMPING



Camping Areas

There are a number of camping areas within the event site. Please refer to the Event Map for locations. These camping areas are spread throughout the precinct on grassed areas.

Please check the Event Schedule for suitable camping arrival times. Teams camped on Jubilee Oval will have limited access.

Team Managers will be required to login to the MyEB Portal to complete your school's camping details prior to the event. On the online camping form you will select the camping area in which you prefer to camp.

Upon arrival to the event site please proceed to your nominated camping area and a camping coordinator will direct you to your site.

Maryborough Caravan Park

The Maryborough Caravan Park is conveniently located and available to accommodate schools on a fee-for-service basis. **All fees must be paid directly to the Caravan Park by the school.**

Schools wishing to camp in the Maryborough Caravan Park must make their own booking arrangements.

Contact: Maryborough Caravan Park

Ph: 03 5460 4848

W: <http://www.maryboroughcaravanpark.com.au/>

Camping Guidelines

Mains electricity reduction aim

One of the Energy Breakthrough's aims is to:

- "Encourage young people to explore solutions to environmental and transport issues"

Therefore, the Energy Breakthrough is endeavoring to reduce schools' reliance on mains electricity both in camp sites and in pit lane. Our aim is to see schools self-sufficient from mains electricity power by November 2025

A number of schools – such as James Sheehan College - are already achieving this through the use of batteries, solar and selective use of equipment throughout the event. We will endeavour to provide case study examples to support schools in achieving this aim over the next two years.

Schools will need to provide:

- Your camping equipment (tents, sleeping, non-electrical cooking facilities)
- Your own catering.
- Electrical power leads with compliant labels
- Campsite lighting.

Facilities provided include toilets, showers, drinking water and power (for lighting only).

Camping guidelines

- The Energy Breakthrough is an alcohol-free and drug-free event.
- Camp sites should be set up as soon as possible after arrival.
- [Car parking is NOT allowed on the ovals.](#)
- No Caravans, Camper Vans, Motor Homes, Horse Floats or any other modified wheeled sleeping vehicle will be allowed on the Energy Breakthrough Event Site.
If you wish to bring one of the above, please contact the Maryborough Harness Racing Club: 5464 2451.
- [Coolrooms are encouraged to assist with schools catering. However, these will need to be identified through the MyEB online camping form pre-event so that we can allocate power and an appropriate campsite for these schools.](#)
- Schools MUST NOT use tent pegs longer than 30cm or star pickets, or stakes such as those used for hire marquees, on any of the camping grounds.
- All Hired Marquees must be weighted and removed off all camping sites by 5pm on the Sunday of the event. Non removal will attract a removal fee charged to the school.
- Campers must position cooking devices on outside perimeter fence of Princes Park Oval.
- Campers must ensure “fat drip trays”, and protective sheeting is positioned underneath cooking devices to prevent heat and hot fat damage to camping surfaces on all campgrounds.
- Ample showers, water and toilet facilities are located throughout the event site.

Please consider the needs of other campers by ensuring that:

- there is adequate supervision of team members within the camping area,
- your camping area is a quiet area at all times, and
- you leave your camp site clean when you depart.

Security

- Whilst the Energy Breakthrough organisers have engaged professional security services to be on site throughout the event, teams are reminded that they are responsible for the security of their own equipment, vehicles and personal belongings during the event.
- Teams are strongly advised not to leave valuables in tents, or visible in cars around the campsites.

Post-event – Don’t Drive Tired

To ensure our travellers make it home safely, all teams are welcome to stay overnight after their event concludes. Please contact the Energy Breakthrough team for more information and to advise us of these arrangements. Please note there will be no security or first aid onsite once the event has concluded at 12pm on the Sunday.

Visiting friends and relatives

Friends and relatives are encouraged to contact the Central Goldfields Visitor Information Centre on 1800 356 511 or www.visitmaryborough.com.au for off-site accommodation options.

19. SPECIAL AWARDS

Energy Breakthrough Safety Award

Energy Breakthrough is committed to safety and it is a priority in everything we do.

This Award recognises a team that has met all the safety requirements in their design and construction processes and therefore presented a vehicle that protects their riders or other participants.

M.R. Recumbents Encouragement Award

M.R. Recumbents (and before them Greenspeed) have been supporting a school each year that overcomes a great deal of adversity in the lead up to, and during, the Energy Breakthrough.

This Award recognises a school that has overcome significant challenges to participate in the Energy Breakthrough.

Tricia Walsh Encouragement Award

A passionate and active member of Maryborough community, Tricia Walsh was a driving force in leading the Innovations in Technology category and a volunteer across various roles for over 15 years before she sadly passed away in 2012.

This is an Encouragement Award – as Tricia believed the event wasn't about winning – she preferred to encourage participation.

Judy Parker Award for the Best First Year School

Judy Parker was part of the Country Education Partnership when the Energy Breakthrough was conceived way back in 1990. She was passionate about engaging new and rural schools into the project.

This Award recognises the best performing first year school across all primary and secondary categories.

Bruce Reiffel Award for the Best Small Primary School

Bruce Reiffel was a local teacher at Maryborough Education Centre who dedicated himself to encouraging and supporting small schools enter the program. He was a tireless worker, always helping young people to build better vehicles, prepare themselves for the event and was always willing to help the smaller schools. He understood education and he understood the 'Breakthrough'. Bruce Reiffel sadly passed away in 2005.

This Award recognises the best performing HPV team from a primary school with an enrolment of less than 200 students.

Ian Rogerson Award for the Best Display & Presentation

Ian 'Rogo' Rogerson was a lifelong educator and the first Coordinator of the Display & Presentation section of the Event.

This Award recognises the schools with the highest Display & Presentation scores across all primary and secondary categories.

McCulloch's Engineering Prize for School-Based-Built Vehicles

The McCulloch's Engineering Prize aims to encourage and reward school-based design and construction. Use of commercially or professionally designed vehicles is not allowed in this Award which is open to students in Year 7 to Year 12 entered in the HPV and EEV categories.

This Award recognises a team who has built the majority of their vehicle at school and completed at least 500km during the 24 hour trial. Teams will be invited to self-nominate themselves for consideration for this Award during Design & Construction assessment.

Power-free Camp and Pits Award

To support the event's aim of reducing reliance on mains electricity by the 2025 event, this Award recognises a team or school who has achieved a power-free and energy efficient campsite and/or pit site during the event.

20. PIT AREAS

- Please refer to '*HPV and EEV Trial Regulations*' for specific details around Pit Areas.

21. CAR AND BUS PARKING

Cars: \$20

Buses: Free

[Payment by EFTPOS only.](#)

The following Parking rules apply:

- Volunteer parking attendants will be on hand to assist and direct drivers upon arrival.
- Please follow the instructions of the parking officials and camping coordinators.
- Buses are exempt from the parking fee and will be required to park in designated bus parking areas only as guided by the volunteer parking attendants.
- All cars parking on the event site and the areas adjoining the site will be charged to park.
- A limit of **one car per school** is allowed to park within the event site with a 'Red Restricted Areas Car Park Pass' until car parks are filled, and after this time they must park off-site. The Red Parking passes will be **posted** to each school camped on Track 2 Campground, Princes Park, Jubilee Oval prior to the event.
- [Parking is NOT permitted on the ovals.](#)
- Only buses will be permitted to park (where space is available) in the parking area at the southern end of the Track 2 Campground.
- Any **cool rooms** will need to be parked away from **any grassed areas**.
- A **YELLOW Parking Pass Receipt** will be issued to your car upon arrival and after payment of the fee and must be filled in with contact details and placed on your dashboard. These receipts enable the vehicle to be parked on the site as directed.
- No vehicles are allowed to park in the **Maryborough Caravan Park**.

22. EVENT SCHEDULE

Please note this schedule is subject to change.

Tuesday – 19 November 2024

Time	Activity	Who	Location
Prior to 1:00PM	Camp Sites Closed - No access to campsites prior to this time.	All teams	Camping Areas
1:00PM - Evening	Set-up Camp	Primary School Teams	Camping Areas
3:00PM - 6:00PM	Check-In Open	Primary School Teams	EB Admin Hub

Wednesday – 20 November 2024

Time	Activity	Who	Location
6:00AM - 5:00PM	Track 1 Access Open	All teams	Track 1
9:00AM - 12:00PM	Check-In Open	Primary School Teams	EB Admin Hub
9:00AM - 4:00PM	Display and Presentation, Scrutineering, Design & Construction	Regional Roads Victoria HPV Primary & Try-athlon Primary	EB Central
9:00AM - 12:00PM	Scrutineering, Design & Construction	Pushcarts	EB Central
1:00PM - 5:00PM	Obstacle Rally	Pushcarts	Track 2
4:00PM – 4:30PM	Team Managers Meeting	Regional Roads Victoria HPV Primary & Try-athlon Primary	Design & Construction Marquee, EB Central
5:00PM - 9:00PM	Track 1 Access Closed	All teams	Track 1
5:45PM – 6:00PM	Rider Briefing	Regional Roads Victoria HPV Primary & Try-athlon Primary	Stage, Track 1
6:30PM - 8:30PM	Practice Session	HPV Primary & Try-athlon Primary	Track 1
9:00PM Wed – 8:00AM Thu	Track 1 Access Open	All teams	Track 1

Thursday – 21 November 2024

Time	Activity	Who	Location
8:00AM - 5:00PM	Track 1 Access Closed	All teams	Track 1
9:00AM - 12:00PM	Check-In Open	Secondary School teams and Junkyard Challenge	EB Admin Hub
8:00 AM - 9:00 AM	Grid Formation	Regional Roads Victoria HPV Primary & Try-athlon Primary	Stafford Straight, Track 1
9:00AM - 5:00PM	Endurance Trial (Part 1 of 2)	Regional Roads Victoria HPV Primary Primary	Track 1
9:00AM - 5:00PM	Endurance Trial	Tryathlon Primary	Track 1
9:00AM - 12:00PM	Endurance	Pushcarts	Track 2

9:45AM - 12:00PM	Junkyard Challenge	Junkyard Challenge	EB Central
1:00PM - 4:00PM	Sprint	Pushcarts	Track 2
1:00PM - 4:00PM	Display and Presentation, Scrutineering, Design & Construction	TRYathlon Secondary	EB Central
4:00PM – 4:30PM	TRYathlon Team Managers Meeting	Try-athlon Secondary Team Managers	Design & Construction Marquee, EB Central
4:00PM - 6:00PM	Check-In Open	Secondary HPV, EEV and Robotics	EB Admin Hub
5:00PM	Awards Ceremony	Pushcarts	Stage, Track 2
5:30PM – 5:30AM Fri	Track 1 Access Open	All Teams	Track 1
6:30PM – 7:30PM	Show N Shine	Open to all teams	EB Central
From 7:30PM	Open Air Movie	Open to all teams	EB Central

Friday – 22 November 2024

Time	Activity	Who	Location
5:30AM - 1:00PM	Track 1 Access Closed	All teams	Track 1
6:00AM - 12:00PM	Trial (Part 2/2)	Regional Roads Victoria HPV Primary	Track 1
8:30AM – 12:00PM	Check-In open	HPV Secondary, EEV & Robotics	EB Admin Hub
9:00AM - 5:00PM	Display and Presentation, Scrutineering, Design & Construction	HPV Secondary & EEV	EB Central
9:00AM - 12:00PM	Obstacle Rally	TRYathlon	Track 2
9:30AM - 1:30PM	Robotics – Sphero Global Challenge	Robotics	EB Central
1:00PM	Awards Ceremony	Regional Roads Victoria HPV Primary	EB Central
1:00PM – 6:00PM	Track 1 Access Open	All teams	Track 1
AFTERNOON	Teams Pack Up and Depart	Primary School teams	Camping Areas
1:00PM - 4:00PM	Time Trial	TRYathlon	Track 2
4:30PM	Awards Ceremony - TRYathlon Primary teams	TRYathlon Primary teams	Stage, Track 2
5:00PM	Team Captains Meeting	HPV Secondary, EEV & Try-athlon Secondary Team Captains	Design & Construction Marquee, EB Central
5:30PM	Team Managers Meeting	HPV Secondary, EEV & Try-athlon Secondary Team Managers	Design & Construction Marquee, EB Central
6:00PM – 9:30PM	Track 1 Access Closed	All teams	Track 1
7:30PM - 9:30PM	Practice Session	HPV Secondary, EEV & Try-athlon Secondary	Track 1
9:30PM – 10:00AM Sat	Track 1 Access Open	All teams	Track 1

Saturday – 23 November 2024

Time	Activity	Who	Location
9:30PM Fri – 10:00AM Sat	Track 1 Access Open	All teams	Track 1
9:00AM	EEV Battery Briefing	EEV Teams	EEV Charging Container
10:00AM Sat – 12:30PM Sun	Track 1 Access Closed	All teams	Track 1
11:00AM - 12:00PM	Grid Formation	HPV Secondary, EEV teams & TRYathlon Secondary teams	Stafford Straight, Track 1
12:00 Saturday - 12:00 Sunday	Trial - 24 Hours	HPV Secondary & EEV teams	Track 1
12:00 Saturday - 8:00PM	Trial - 8 Hours	TRYathlon Secondary teams	Track 1
8:00 PM	Trial Finish	TRYathlon Secondary teams	Back straight, Track 1
8:30 PM	Awards Ceremony	TRYathlon Secondary teams	Skate Park BBQ Shelter
9:00PM	TRYathlon Teams managed safe track crossing	TRYathlon Secondary teams	Marshal Point #11

Sunday – 24 November 2024

Start Time	Activity	Category	Location/s
12:00PM	HPV Secondary and EEV Trial Concludes	HPV Secondary & EEV	Track 1
12:30PM	Track 1 Access Open	All teams	Track 1
1:00PM	HPV Secondary and EEV Presentations	HPV Secondary & EEV	EB Central
AFTERNOON	Teams Pack Up and Depart	HPV Secondary & EEV	

SITE MAP

Please visit the website for the Event Site map:

<https://www.eb.org.au/guide/maps/>



**ENERGY BREAKTHROUGH
SITE KEY**

- | | | | | |
|---------------------|-----------------------|--------------------------|---|-----------------------------------|
| First Aid | Toilets | Parking Area | Pushcart Changeover Point | Scrutineering |
| Assembly Area | Showers | Restricted Parking Area | Trackside Marquee | Robotics / Pushcarts / Exhibitors |
| Camping Area | Accessible Toilet | Bus Drop Off | CEP Stage | Event Operations Centre |
| Food & Refreshments | Masseur | Road Closed | Display & Presentation | Exhibitors (EB Central) |
| BBQ Shelter | Wrist Banding Station | Gate (numbered) | Design & Construction / Junkyard Challenge / Team Managers Meetings | Bridge |
| Drinking Water | EEV Recharge Station | Marshal Point (numbered) | | One way traffic only |
| Crockery Wash Bay | Parts and Repairs | Start/Finish | | Walking track only |

Energy Breakthrough is a non-smoking event

BALLARAT/AVOCA →

Map not to scale.