

2019 INFORMATION KIT
PART B: HPV PRIMARY

ENERGY BREAKTHROUGH

20-24 NOVEMBER 2019 | MARYBOROUGH, VICTORIA

POWERED BY IMAGINATION

THE PREMIER SCIENCE, TECHNOLOGY, ENGINEERING AND MATHS, ACTIVE LEARNING PROGRAM

A PARTNERSHIP BETWEEN



eb.org.au

HUMAN POWERED VEHICLES (HPVs) - PRIMARY*

All Track activities are on the Regional Roads Victoria Track.

*All teams should have arrived and registered by 12noon on Thursday.
Display & Presentation and Design & Construction schedules will be prepared with this in mind.*

WEDNESDAY 20 NOVEMBER

1.00pm – 5.00pm Registration open

Location: Administration Centre

3.30pm – 6.00pm Design and Construction and Scrutineering

Location: Display & Presentation marquees

THURSDAY 21 NOVEMBER

9.00am Registration opens

Location: Administration Centre

9.00am – 5.00pm Display and Presentations

Location: Display & Presentation marquees

8.30am – 5.30pm Design and Construction and Scrutineering

Location: Display & Presentation marquees

6.00pm Rider Briefing

Location: In front of Regional Roads Victoria Track Stage

6.30pm – 8.30pm Practice Session

Regional Roads Victoria Track

FRIDAY 22 NOVEMBER

11.00am Team Managers' Briefing

Location: Rear of Regional Roads Victoria Track Stage

11.30am Assembly of Starting Grid

Location: Front Straight, Regional Roads Victoria Track

12 noon HPV A Trial Start

Location: Regional Roads Victoria Track

8.00pm Compulsory HPV A Break

SATURDAY 23 NOVEMBER

6.00am HPV A Restart

Location: Pit Lane, Regional Roads Victoria Track

12 noon HPV A Trial Finish

3.30pm Presentation Ceremony (Primary)

Location: Stage in Energy Expo area

SUNDAY 24 NOVEMBER

No activities

*** PLEASE NOTE THAT THIS TIMETABLE IS SUBJECT TO AMENDMENTS**

TEAM NUMBERS – HPV A

NO.	TEAM NAME	SCHOOL	CLASS
1	Team 1	Maryborough Education Centre	A2 (more than 200 students)
2	Team 2	Maryborough Education Centre	A2 (more than 200 students)
3	Team 1	Buninyong Primary School	A2 (more than 200 students)
4	Team 2	Buninyong Primary School	A2 (more than 200 students)
5	Speedy	Talbot Primary School	A1 (200 or less students)
6	Gonzales	Talbot Primary School	A1 (200 or less students)
7	EcoRush	White Hills Primary School	A2 (more than 200 students)
8	Torpeco	White Hills Primary School	A2 (more than 200 students)
9	Haileybury Hailstorm	Haileybury College	A2 (more than 200 students)
309	Haileybury Hornets	Haileybury College	A2 (more than 200 students)
10	Haileys Comet	Haileybury College	A2 (more than 200 students)
11	Benton Bandits	Benton Junior College	A2 (more than 200 students)
12	Benton Bullets	Benton Junior College	A2 (more than 200 students)
13	Grand Slam	Mornington Primary School	A2 (more than 200 students)
14	GT	Mornington Primary School	A2 (more than 200 students)
15	Mercury	Carisbrook Primary School	A2 (more than 200 students)
16	Junior	Carisbrook Primary School	A2 (more than 200 students)
17	Avoca Circuit	Avoca Primary School	A1 (200 or less students)
18	Carbon Nada	Pleasant Street Primary School	A2 (more than 200 students)
19	Carbon Zero	Pleasant Street Primary School	A2 (more than 200 students)
20	DPS EXPRESS 1	Delacombe Primary School	A2 (more than 200 students)
21	DPS EXPRESS 2	Delacombe Primary School	A2 (more than 200 students)
22	Wimmera Visper	Horsham West & Haven PS	A2 (more than 200 students)
23	Wimmera Rampage	Horsham West & Haven PS	A2 (more than 200 students)
24	Spirit Of Diamond Creek	Diamond Creek Primary School	A2 (more than 200 students)
25	Willmott Park Warriors	Willmott Park Primary School	A2 (more than 200 students)
26	Willmott Park Wizards	Willmott Park Primary School	A2 (more than 200 students)
27	Laurimar Dragons	Laurimar Primary School	A2 (more than 200 students)
327	Laurimar Phoenix	Laurimar Primary School	A2 (more than 200 students)
28	Laurimar Griffins	Laurimar Primary School	A2 (more than 200 students)
29	Katchmi Jnr	Morwell Park Primary School	A2 (more than 200 students)
30	Flame Thrower	Morwell Park Primary School	A2 (more than 200 students)
31	Creekers	Kororoit Creek Primary School	A2 (more than 200 students)
32	Lickety Split	Kororoit Creek Primary School	A2 (more than 200 students)
33	Pearcedale Piranhas	Pearcedale Primary School	A2 (more than 200 students)
34	Pearcedale Piranhas 2.0	Pearcedale Primary School	A2 (more than 200 students)
35	Cosmos Conquerors	Kingswood Primary School	A2 (more than 200 students)
36	Young Guns	Terang College	A2 (more than 200 students)

NO.	TEAM NAME	SCHOOL	CLASS
37	Oak Tree Racing 1	Avenel Primary School	A1 (200 or less students)
38	Oak Tree Racing 2	Avenel Primary School	A1 (200 or less students)
39	Gecko 1	Seymour College	A2 (more than 200 students)
40	Gecko 3	Seymour College	A2 (more than 200 students)
41	Road Runner	Dingley Primary School	A2 (more than 200 students)
42	Speedy Gonzales	Dingley Primary School	A2 (more than 200 students)
43	Cruisin crew	Lloyd Street Primary School	A2 (more than 200 students)
44	Oscar	Berwick Primary School	A2 (more than 200 students)
344	Elmo	Berwick Primary School	A2 (more than 200 students)
45	Cookie	Berwick Primary School	A2 (more than 200 students)
46	Dynamite	Clunes Primary School	A1 (200 or less students)
47	Thunder	Canadian Lead Primary School	A2 (more than 200 students)
48	Lightning	Canadian Lead Primary School	A2 (more than 200 students)
49	John Valves	Caledonian Primary School	A2 (more than 200 students)
50	Pedders Suspension and Brakes	Caledonian Primary School	A2 (more than 200 students)
51	Furious 8	Frankston Heights PS	A2 (more than 200 students)
52	Hurricane Heights	Frankston Heights PS	A2 (more than 200 students)
53	Lucknow Lightning	Lucknow Primary School	A2 (more than 200 students)
54	Lucknow Thunder	Lucknow Primary School	A2 (more than 200 students)
55	Masterchef	Lyndhurst Primary School	A2 (more than 200 students)
56	Lego Masters	Lyndhurst Primary School	A2 (more than 200 students)
57	CWPS Wolves	Cranbourne West PS	A2 (more than 200 students)
58	CWPS Pups	Cranbourne West PS	A2 (more than 200 students)
59	Team 1	Garfield Primary	A1 (200 or less students)
60	Team 1	Tootgarook Primary School	A2 (more than 200 students)
61	Team 2	Tootgarook Primary School	A2 (more than 200 students)
62	Bulletproof	Leongatha Primary School	A2 (more than 200 students)
63	XLR8	Leongatha Primary School	A2 (more than 200 students)
64	Dynamite	Lockwood Primary School	A1 (200 or less students)
65	TNT	Lockwood Primary School	A1 (200 or less students)
66	Quarry Hill	Quarry Hill Primary School	A2 (more than 200 students)
67	Kennington Green	Kennington Primary School	A2 (more than 200 students)
68	Kennington Yellow	Kennington Primary School	A2 (more than 200 students)
69	Zero Gravity	Mt Eliza Primary School	A2 (more than 200 students)
70	Light Speed	Mt Eliza Primary School	A2 (more than 200 students)
71	Beware	Bonbeach Primary School	A2 (more than 200 students)
72	Back Off	Bonbeach Primary School	A2 (more than 200 students)
73	Nitro	Derinya Primary School	A2 (more than 200 students)
373	Flamingos	Derinya Primary School	A2 (more than 200 students)
74	Blitz	Derinya Primary School	A2 (more than 200 students)

NO.	TEAM NAME	SCHOOL	CLASS
75	Thunder	Niddrie Primary School	A2 (more than 200 students)
76	Lightning	Niddrie Primary School	A2 (more than 200 students)
77	Red Rockets	Tooradin Primary School	A2 (more than 200 students)
78	Flamin Mozzies	Tooradin Primary School	A2 (more than 200 students)
79	Ghost	Golden Square Primary School	A2 (more than 200 students)
80	Pacman	Golden Square Primary School	A2 (more than 200 students)
81	Shazzam	Jells Park Primary School	A2 (more than 200 students)
381	Phoenix	Jells Park Primary School	A2 (more than 200 students)
82	Vanquish	Jells Park Primary School	A2 (more than 200 students)
83	HR Rockets 1	Holy Rosary PS White Hills	A2 (more than 200 students)
84	HR Rockets 2	Holy Rosary PS White Hills	A2 (more than 200 students)
85	Sminglewood	St Mary's Primary School	A1 (200 or less students)
86	Team 1	Marist College Bendigo	A2 (more than 200 students)
87	Kildare Barbara	St. Augustine's Primary School	A2 (more than 200 students)
88	Kildare May	St. Augustine's Primary School	A2 (more than 200 students)

PIT AREAS

- Where possible, pit numbers are the same as the team number.
- All pit sites are numbered.
- Team numbers with a “3” or “4” prefix indicate where a school with three teams will use a total of two pit spaces. Eg. Team “310” shares pit space number 10 with team number 10.
- All pit sites must be set-up as per the direction of Event Officials and changes may be required at the Officials discretion.
- All pit sites are approximately 2.8 m – 3 m wide by 2 metres deep.
- All teams must leave approximately 1 m clearance area in front of their pit site for rider changeovers and for other teams to have line of sight of the track and pit lane.
- There is no existing shelter in the pit areas. Teams are encouraged to erect a small tent, or arrange to share a tent with another team.
- During the event there is restricted access to the pit area.
- If the surface of your pit area is hard, that is concrete and asphalt, securing tents will require water or sand filled weights rather than pegs.
- Pit areas should NOT be set up too early. 90 mins prior to your scheduled practice sessions should be adequate.
- HPV Primary teams and TRYathlon teams will be required to share pit spaces for the TRYathlon Practice session on Friday evening. Your assistance and patience with this is appreciated.
- HPV Primary teams will also need to dismantle and clear their pit spaces quickly after the conclusion of the HPV Primary trial to allow time for the TRYathlon teams to set-up for their Endurance trial.
- **Closed shoes must be worn in pit lane.**
- **Maximum speed In the pit area In 10km/h**

DISPLAY AND PRESENTATION
THURSDAY 21ST

Display and Presentation												
TIME	Panel 1			Panel 2			Panel 3			Panel 4		
9.30 am	1A	59	Garfield Primary	2A	81	Jells Park Primary School	3A	62	Leongatha Primary School	4A	55	Lyndhurst Primary School
10.00 am	1B	49	Caledonian Primary School	2B	37	Avenel Primary School	3B	69	Mt Eliza Primary School	4B	57	Cranbourne West Primary School
11.00 am	1A	38	Avenel Primary School	2A	63	Leongatha Primary School	3A	82	Jells Park Primary School	4A	16	Carisbrook Primary School
11.30 am	1B	17	Avoca Primary School	2B	75	Niddrie Primary School	3B	7	White Hills Primary School	4B	18	Pleasant Street Primary School
12 noon	1A	36	Terang College	2A	15	Carisbrook Primary School	3A	83	Holy Rosary Primary School White Hills	4A	381	Jells Park Primary School
1.30 pm	1B	46	Clunes Primary School	2B	13	Mornington Primary School	3B	3	Buninyong Primary School	4B	84	Holy Rosary Primary School White Hills
2.00 pm	1A	6	Talbot Primary School	2A	68	Kennington Primary School	3A	53	Lucknow Primary School	4A	20	Delacombe Primary School
2.30 pm	1B	85	St Mary's Primary School	2B	64	Lockwood Primary School	3B	77	Tooradin Primary School	4B	79	Golden Square Primary School
3.30 pm	1A	65	Lockwood Primary School	2A	5	Talbot Primary School	3A	80	Golden Square Primary School	4A	54	Lucknow Primary School
4.00 pm	1B	67	Kennington Primary School	2B	78	Tooradin Primary School	3B	47	Canadian Lead Primary School	4B	22	Horsham West and Haven Primary School

DISPLAY AND PRESENTATION
THURSDAY 21ST

Display and Presentation												
TIME	Panel 5			Panel 6			Panel 7			Panel 8		
9.30 am	5A	44	Berwick Primary School	6A	1	Maryborough Education Centre	7A	25	Willmott Park Primary School	8A	86	Marist College Bendigo
10.00 am	5B	9	Haileybury College	6B	60	Tootgarook Primary School	7B	73	Derinya Primary School	8B	43	Lloyd Street Primary School
11.00 am	5A	58	Cranbourne West Primary School	6A	27	Laurimar Primary School	7A	70	Mt Eliza Primary School	8A	10	Haileybury College
11.30 am	5B	50	Caledonian Primary School	6B	56	Lyndhurst Primary School	7B	61	Tootgarook Primary School	8B	74	Derinya Primary School
12 noon	5A	48	Canadian Lead Primary School	6A	31	Kororoit Creek Primary School	7A	28	Laurimar Primary School	8A	344	Berwick Primary School
1.30 pm	5B	23	Horsham West and Haven Primary School	6B	76	Niddrie Primary School	7B	32	Kororoit Creek Primary School	8B	327	Laurimar Primary School
2.00 pm	5A	8	White Hills Primary School	6A	24	Diamond Creek Primary School	7A	66	Quarry Hill Primary School	8A	26	Willmott Park Primary School
2.30 pm	5B	14	Mornington Primary School	6B	4	Buninyong Primary School	7B	19	Pleasant Street Primary School	8B	12	Benton Junior College
3.30 pm	5A	39	Seymour College	6A	21	Delacombe Primary School	7A	11	Benton Junior College	8A	30	Morwell Park Primary School
4.00 pm	5B	35	Kingswood Primary School	6B	29	Morwell Park Primary School	7B	34	Pearcedale Primary School	8B	40	Seymour College

DISPLAY AND PRESENTATION
THURSDAY 21ST

Display and Presentation												
TIME	Panel 9			Panel 10			Panel 11			Panel 12		
9.30 am	9A	51	Frankston Heights Primary School	10A			11A	T66	St. Augustine's Primary School	12A	T20	Carisbrook Primary School
10.00 am	9B	71	Bonbeach Primary School	10B	T54	Tyabb Primary School	11B			12B	T47	Gembrook Primary School
11.00 am	9A	45	Berwick Primary School	10A	52	Frankston Heights Primary School	11A	T24	Emerald Primary School	12A	T67	St. Augustine's Primary School
11.30 am	9B	2	Maryborough Education Centre	10B	T17	Avoca Primary School	11B	T13	Boneo Primary School	12B	T53	Tyabb Primary School
12 noon	9A	309	Haileybury College	10A	87	St. Augustine's Primary School	11A	T31	Kyabram P-12 College	12A	T25	Emerald Primary School
1.30 pm	9B	88	St. Augustine's Primary School	10B	T14	Boneo Primary School	11B	T64	St Therese's Primary School	12B	T19	Moreland Primary School
2.00 pm	9A	373	Derinya Primary School	10A	72	Bonbeach Primary School	11A	T51	Rowellyn Park Primary School	12A	41	Dingley Primary School
2.30 pm	9B	33	Pearcedale Primary School	10B	T65	St Therese's Primary School	11B	T57	Yarrawonga College P-12	12B	T10	Flemington Primary School
3.30 pm	9A	42	Dingley Primary School	10A	T11	Flemington Primary School	11A	T7	Beaconsfield Primary School	12A	T58	Yarrawonga College P-12
4.00 pm	9B			10B	T12	Toorak College	11B	T15	Eaglehawk North Primary School	12B	T22	Glendal Primary School
4.30 pm	9A			10A	T16	Eaglehawk North Primary School	11A	T23	Glendal Primary School	12A		

DISPLAY AND PRESENTATION
THURSDAY 21ST

Display and Presentation												
TIME	Panel 13			Panel 14			Panel 15			Panel 16		
9.30 am	13A	T50	Rowellyn Park Primary School	14A	T2	Maryborough Education Centre	15A	T9	Beaconsfield Upper Primary School	16A	T26	Emerald Primary School
10.00 am	13B	T21	Cockatoo Primary School	14B	T46	Koo Wee Rup Secondary College	15B	T27	Emerald Secondary College	16B	T1	EDEC HPV Team
11.00 am	13A	T4	EDEC HPV Team	14A	T29	Gleneagles Secondary	15A	T45	Ballarat Christian College	16A	T35	Nathalia Secondary College
11.30 am	13B	T48	Gembrook Primary School	14B	T8	Beaconsfield Primary School	15B			16B		
12 noon	13A	T63	St Therese's Primary School	14A	T5	EDEC HPV Team	15A	T28	Gleneagles Secondary	16A	T40	Seymour College
1.30 pm	13B	T34	St Patrick's Primary School	14B	T60	Mount Beauty Secondary College	15B	T30	Kyabram P-12 College	16B	T18	Peninsula Human Power
2.00 pm	13A	T39	Seymour College	14A	T32	Kyabram P-12 College	15A	T44	North Geelong Secondary College	16A	T41	Rossbourne School
2.30 pm	13B	T61	Mount Beauty Secondary College	14B	T38	Seymour College	15B	T42	Rossbourne School	16B	T6	Beaconsfield Primary School
3.30 pm	13A	T36	St Margarets School and Berwick Grammar School	14A	T33	Echuca College	15A	T49	Nelson Park School	16A	T43	Rossbourne School
4.00 pm	13B	T52	Ss Michael and John's Primary School	14B	T56	Yarrawonga College P-12	15B	T62	Mount Beauty Secondary College	16B	T37	St Margarets School and Berwick Grammar School

DESIGN AND CONSTRUCTION
WEDNESDAY 20TH

	Design and Construction			
TIME	Panel 1	Panel 2	Panel 3	Panel 4
3:30 pm	15 Carisbrook Primary School	16 Carisbrook Primary School	T20 Carisbrook Primary School	
3:50 pm	59 Garfield Primary	57 Cranbourne West Primary School	58 Cranbourne West Primary School	
4:10 pm	T24 Emerald Primary School	T25 Emerald Primary School	T26 Emerald Primary School	
4:30 pm	87 St. Augustine's Primary School	88 St. Augustine's Primary School	T66 St. Augustine's Primary School	
4:50 pm	62 Leongatha Primary School	63 Leongatha Primary School	T67 St. Augustine's Primary School	
5:10 pm	51 Frankston Heights Primary School	52 Frankston Heights Primary School	86 Marist College Bendigo	
5:30 pm	81 Jells Park Primary School	82 Jells Park Primary School	381 Jells Park Primary School	

DESIGN AND CONSTRUCTION
THURSDAY 21ST

	Design and Construction				
TIME	Panel 1	Panel 2	Panel 3	Panel 4	
8:30 am	T5 EDEC HPV Team	T45 Ballarat Christian College			
8:50 am	T29 Gleneagles Secondary	T28 Gleneagles Secondary	T13 Boneo Primary School	56 Lyndhurst Primary School	
9:10 am	T35 Nathalia Secondary College	70 Mt Eliza Primary School	T14 Boneo Primary School	10 Haileybury College	
9:30 am	T19 Moreland Primary School	T48 Gembrook Primary School	17 Avoca Primary School	61 Tootgarook Primary School	
9:50 am	T51 Rowellyn Park Primary School	72 Bonbeach Primary School	35 Kingswood Primary School	T8 Beaconsfield Primary School	
10:30 am	T50 Rowellyn Park Primary School	T2 Maryborough Education Centre	19 Pleasant Street Primary School	55 Lyndhurst Primary School	
10:50 am	T46 Koo Wee Rup Secondary College	T9 Beaconsfield Upper Primary School	T27 Emerald Secondary College	11 Benton Junior College	
11:10 am	T1 EDEC HPV Team	T47 Gembrook Primary School	T21 Cockatoo Primary School	24 Diamond Creek Primary School	
11:30 am	37 Avenel Primary School	66 Quarry Hill Primary School	49 Caledonian Primary School	69 Mt Eliza Primary School	
11:50 am	64 Lockwood Primary School	T4 EDEC HPV Team	65 Lockwood Primary School	6 Talbot Primary School	
12:50 pm	T31 Kyabram P-12 College	38 Avenel Primary School	T17 Avoca Primary School	T63 St Therese's Primary School	
1:10 pm	T40 Seymour College	T22 Glendal Primary School	T31 Kyabram P-12 College	T53 Tyabb Primary School	
1:30 pm	T43 Rossbourne School	T62 Mount Beauty Secondary College	T23 Glendal Primary School	5 Talbot Primary School	
1:50 pm	T36 St Margarets School and Berwick Grammar School	67 Kennington Primary School	28 Laurimar Primary School	75 Niddrie Primary School	
2:10 pm	13 Mornington Primary School	3 Buninyong Primary School	31 Kororoit Creek Primary School	32 Kororoit Creek Primary School	
2:30 pm	T37 St Margarets School and Berwick Grammar School	T34 St Patrick's Primary School	T30 Kyabram P-12 College	327 Laurimar Primary School	

DESIGN AND CONSTRUCTION
THURSDAY 21ST

	Design and Construction			
TIME	Panel 1	Panel 2	Panel 3	Panel 4
3:20 pm	T39 Seymour College	T38 Seymour College	T32 Kyabram P-12 College	46 Clunes Primary School
3:40 pm	T61 Mount Beauty Secondary College	T60 Mount Beauty Secondary College	T57 Yarrawonga College P-12	85 St Mary's Primary School
4:00 pm	T41 Rossbourne School	T42 Rossbourne School	T10 Flemington Primary School	T11 Flemington Primary School
4:20 pm	T33 Echuca College	T18 Peninsula Human Power	T49 Nelson Park School	T58 Yarrawonga College P-12
4:40 pm	T56 Yarrawonga College P-12	T52 Ss Michael and John's Primary School	21 Delacombe Primary School	30 Morwell Park Primary School
5:00 pm	T16 Eaglehawk North Primary School	T44 North Geelong Secondary College		

DESIGN AND CONSTRUCTION
THURSDAY 21ST

Design and Construction			
TIME	Panel 5	Panel 6	Panel 7
8:30 am			
8:50 am	45 Berwick Primary School	344 Berwick Primary School	
9:10 am	309 Haileybury College	74 Derinya Primary School	
9:30 am	2 Maryborough Education Centre	42 Dingley Primary School	
10:30 am	44 Berwick Primary School	25 Willmott Park Primary School	26 Willmott Park Primary School
10:50 am	12 Benton Junior College	41 Dingley Primary School	
11:10 am	9 Haileybury College	60 Tootgarook Primary School	1 Maryborough Education Centre
11:30 am	73 Derinya Primary School	373 Derinya Primary School	71 Bonbeach Primary School
11:50 am	27 Laurimar Primary School	33 Pearcedale Primary School	34 Pearcedale Primary School
12:50 pm	T65 St Therese's Primary School	79 Golden Square Primary School	80 Golden Square Primary School
1:10 pm	T54 Tyabb Primary School	47 Canadian Lead Primary School	48 Canadian Lead Primary School
1:30 pm	78 Tooradin Primary School	39 Seymour College	40 Seymour College
1:50 pm	83 Holy Rosary Primary School White Hills	22 Horsham West and Haven Primary School	7 White Hills Primary School
2:10 pm	36 Terang College	18 Pleasant Street Primary School	50 Caledonian Primary School
2:30 pm	T64 St Therese's Primary School	84 Holy Rosary Primary School White Hills	23 Horsham West and Haven Primary School

DESIGN AND CONSTRUCTION
THURSDAY 21ST

Design and Construction			
TIME	Panel 5	Panel 6	Panel 7
3:20 pm	T6 Beaconsfield Primary School	68 Kennington Primary School	14 Mornington Primary School
3:40 pm	53 Lucknow Primary School	77 Tooradin Primary School	20 Delacombe Primary School
4:00 pm	4 Buninyong Primary School	76 Niddrie Primary School	8 White Hills Primary School
4:20 pm	T7 Beaconsfield Primary School	54 Lucknow Primary School	43 Lloyd Street Primary School
4:40 pm	T12 Toorak College	T15 Eaglehawk North Primary School	29 Morwell Park Primary School

HUMAN POWERED VEHICLE (HPV) AND ENERGY EFFICIENT VEHICLES (EEV) AND TRYATHLON ENDURANCE TRIAL REGULATIONS

[Version 2019.01](#)

SPIRIT OF COMPETITION

The Energy Breakthrough Trial presents a unique opportunity for students to extend their learning experience beyond the boundaries of formal education. The following competition regulations have been framed so that the efforts and experiences of all participants are maximised, to be bound only by the constraints of safety and the spirit of healthy, but friendly competition.

ELIGIBILITY

Make-up of Teams

Teams will consist of the following numbers of competitors:

Class	Year Level	Team Size	Gender Requirements	School Size
A1	Years 1 - 6	Min 6 - Max 10	At least 50% female.	Schools with an enrolment of 200 or less
A2	Years 1 - 6	Min 6 - Max 10	At least 50% female.	Schools with an enrolment of more than 200.
B1	Years 7 - 8	Min 6 - Max 8	At least 50% female.	N/a
B2	Years 7 - 10	Min 6 - Max 8	At least 50% female.	N/a
C	Years 7 - 12	Min 6 - Max 8	At least 50% female.	N/a
All Female	Years 7 - 12	Min 6 - Max 8	Female only	N/a
Open	Up to Year 12	Min 6 - Max 8	No gender requirements.	N/a

Team composition

- 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).

- Team members do not have to all come from the same school. They could be part of a scout, church, or other community group, however they must all be current school students and be covered by the group's insurance. [Where non-school teams have riders from other schools participating in Energy Breakthrough, they must have written approval from the Principal of the school.](#)
- [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 each school's website and the MySchools website.](#)

Registered Riders

- Only registered team riders shall take part in the Trial, however rider changes can be made up to the start of the endurance trial.
- Emergency riders are encouraged to participate in the practice session to ensure they are familiar with the track and the vehicle.

Team Member Participation

- Team managers must ensure that every nominated team member participates as a rider during the Trial.
- Team Managers are required to keep a log of rider track time, which can be checked by marshals investigating incidents.

Age of Drivers

Drivers of Energy Efficient Vehicles shall be at least 14 years of age, unless special prior approval is provided by organisers.

Identification

All riders must have official identification, which must be shown on request during the trial.

Rider Substitution

- Sick or injured riders may be replaced prior to the start of the trial by a registered reserve rider of the same gender.
- Riders cannot be substituted after the start of the Trial.
- A rider substitution will require the identification wristband of the replaced rider to be handed to the Administration Centre and a new identification issued to the reserve rider.

RIDER ATTIRE

Fit and Adjustment

All vehicle occupants shall wear the following safety attire correctly fitted and adjusted at all times the vehicle is on the track during all on track activities.

Helmet

For human powered vehicles [and EEV 1 vehicles](#), minimum requirement is a bicycle helmet approved to AS 2063, AS 1698 or ECE 22.05.

For EEV 2 or electric-only Energy Efficient Vehicles, requirement is a motor cycle helmet approved to either AS 1698 or ECE 22.05.

Eye Protection

- [It is recommended that shatterproof glasses or cycling glasses be worn at all times.](#)
- [Vehicles that are fully enclosed are not required to wear eye protection.](#)
- Open bodywork (or 'head out') vehicles or vehicles have significant sections of windows removed will be required to wear eye protection.

Gloves

Gloves must be worn by riders when in the vehicle.

Shoes

Shoes must provide full foot coverage. Sandals or thongs are not permitted.

MP3 players

The use of MP3 players or similar music/entertainment devices by riders is NOT permitted during Trial or Practice sessions.

Video cameras

- Small video cameras (eg. GoPro) are allowed as long as they are not attached to the rider's helmet and do not pose any safety risk.
- Camera's must not be mounted to the outside of the vehicle silhouette when viewed from the front

Clothing

Human Powered Vehicles

- Minimum coverage of shoulders, upper body and mid-thigh (e.g.: shorts and T-shirt; or cycling knicks and jersey.)
- Sleeveless triathlon skin suits, sleeveless cycling jerseys, sleeveless t-shirts, tank tops or singlets are not permissible.

Electric powered Energy Efficient Vehicles

- Riders of pedal/electric hybrid vehicles may choose to comply with the Human powered Vehicle clothing rules.
- Riders of electric-only vehicles must comply with the requirements for liquid fuelled vehicles below.
- Teams that have battery power must provide a pair of full cover gloves and a pair of protective goggles for anyone handling batteries.

Liquid-fuelled Energy Efficient Vehicles

- All riders shall wear overalls or clothes that cover and are neat fitting from ankle to wrist to neck.
- Fire retardant material is advised and light fabric / disposable overalls are not permitted
- It is not permissible for riders of fuel powered vehicles to 'dress down' when their fuel is used up.

SCRUTINEERING

Compulsory

Scrutineering is compulsory for all vehicles and teams, to ensure compliance with vehicle specifications and safety requirements.

Before track

- Before entering onto the track for a Practice session, all vehicles must be scrutineered for safety.
- Scrutineers can refuse permission to enter the track for any safety reason.

Subsequent scrutineering

All vehicles may also be inspected at random during the trial for operation of safety items or when the vehicle is involved in a track incident. (See Section 7.11).

TRAFFIC LIGHTS, FLAGS AND SIGNALS

All competitors shall understand the meaning of the following traffic signals/flag signals:

Green Light or Flag

The track is clear for competition.

Yellow Light or Flag

- A sign of danger or track obstruction in the vicinity of the marshal point.
- Riders are required to stop racing, slow and pass the point of danger at a significantly reduced speed (at or below 20 kph) using extreme caution
- Riders must not resume competition until they are well clear of the danger and until they reach the vicinity of the next marshal point displaying a Green Light or Flag.

Red Light or Flag

- An indication of extreme danger.
- All vehicles shall come to an immediate stop.
- Racing has ceased.
- Riders must follow the directions of the Clerk of Course and flag marshals.

Blue Flag

- Is an indicator that a faster vehicle is positioned close to you.
- Competitors shown the blue flag must hold their line to allow overtaking.

TRANSPONDERS AND LAP TIMING

It is the Team Manager's responsibility to ensure that:

- a transponder is collected from the Administration Centre at Check-in;
- the transponder is correctly fitted to the vehicle according to the instructions;
- the transponder is working during all on track activities;
- [any queries relating to lap times are reported to Timing Officials as soon as practical for investigation; and](#)
- the transponder is returned to the Administration Centre at the end of the Trial, prior to leaving the event site.

START, FINISH AND BREAK

Pre-Race Briefing

All Team Managers must attend the pre-race briefing by the Clerk of Course and / or Race Director.

Grid Assembly

- The Race Director, in conjunction with the marshal team, will allocate and advertise starting grid positions following the practice session.
- Vehicles will be assembled according to the official grid positions.
- Vehicles will be called to the starting grid assembly area [60 minutes](#) prior to the official start.
- If a vehicle is not on the grid within 15 minutes of the scheduled start time, officials reserve the right to place the vehicle at the rear of the grid.

Trial Start

The trial will be started with the drop of the National flag.

Trial Finish

All trials will conclude with the display of the black and white chequered flag.

This is will be:

- 24 hours after the start for the secondary HPV and Energy Efficient Vehicle teams.
- After 14 hours of competition for the HPV Class A teams.
- 8 hours after the start for TRYathlon teams in their Endurance Trial.
- After all 8 riders have completed the TRYathlon Obstacle and TRYathlon Time Trial events.

Primary break

- All HPV A vehicles will leave the track by re-entering the pits from the time specified in the event schedule on Friday evening.
- All HPV A teams will restart their trial at the specified time on Saturday morning.
- The restart of the HPV A trial will be under the direction of the Clerk of Course.

Extreme Weather (Heat / Rain)

In the event of severe heat exceeding 36 degrees or severe rain / thunderstorm or other severe weather events, the Clerk of Course and / or Race Director reserve the right to implement a range of staged strategies to reduce risk to riders, marshals, support crew and spectators on site.

These strategies range from compulsory breaks for riders, suspension of the Trial for a period of time, to cancellation of the Trial.

TRACK CONDUCT

Speed Limit

- Speedometers are mandatory and ALL competing vehicles shall observe a maximum speed of 60 km/h during all on track activities.
- The maximum speed in the pit lane is 10 km/h.
- Vehicles detected exceeding 60km/h will have the lap immediately voided.
- Voided laps will be displayed on the results display system, but not counted towards a team's final total.

Seat belts

All vehicle occupants shall wear a correctly adjusted seat belt during all on track activities.

(Refer 8.4 of the Vehicle Specifications for correct adjustment of seat belts.)

Right of Way

Competing vehicles have right of way over disabled vehicles that need to be recovered.

Direction of Travel

Under no circumstances is a vehicle to be ridden or pushed on the track in the opposite direction to competition.

Track Position and Overtaking

- A blue line has been painted on the track. Riders should keep to the left of this blue line on the inside of the track, unless overtaking another vehicle.

- Riders should overtake on the outside, to the right of the vehicle being overtaken.
- Riders should not change lanes without checking their mirrors to make sure it is safe to do so.
- It is the responsibility of the overtaking (faster) rider to ensure that the overtaking move is carried out without endangering other competitors.
- Cutting in, deliberate blocking or leaving insufficient clearance will be penalised.

Vehicle Lighting

- Front lights, as per by Vehicle Specifications, shall be illuminated during the hours of darkness as directed by the Clerk of Course.
- Rear lights, as per by Vehicle Specifications, are to be turned on steady mode during all on track activities.
- Riders must stop in the pits as soon as possible to rectify any inoperable or insecure lights.

Lighting Batteries

Batteries used solely for lighting may be charged and/or recharged and/or replaced as required.

Track Incidents

- All vehicles involved in significant crashes or rollovers are to be removed from the track by marshals only and the barriers quickly restored to trial condition as soon as practical.
- All vehicles involved in rollovers or significant crashes must have a “Return to Pits” sticker applied and may then be ridden back to the pits.
- Vehicles that have been involved in a track incident and received a “Return to Pits” sticker cannot restart until a Pit Marshal has checked the vehicle is safe to continue and have removed the sticker.
- [After returning to the pits the rider will NOT be allowed to ride again for at least 30 Minutes.](#) During this time, Team Managers must monitor the riders’ condition, and if in doubt take the rider to the Trackside Medical Centre for assessment.
- If a vehicle is unable to continue because it is damaged or the rider is unable to ride, then the vehicle may be recovered by the team for repair. Teams unable to recover their own vehicle can request assistance.
- Riders who are unable to ride their vehicle back to the pits should be taken to the Trackside Medical Centre to be assessed. They must be cleared by the medical team before being allowed to ride again.

Injured Riders

The Clerk of Course and track marshals monitor the all on track activity and where necessary will call for assistance from Medical and Emergency Services to attend to injured riders.

Vehicle Recovery

- If a vehicle breaks down, the track marshals will report the incident and the team will be informed.
- It is the responsibility of the team to recover their vehicle.
- If a team is unable to safely recover their vehicle they can request assistance from the Clerk of Course and event officials.

Emergency Vehicles

- When emergency vehicles are on the track it displays flashing yellow lights which indicates extreme danger in the same manner as corner yellow lights/flags.
- Riders must slow down, use extreme caution, must not overtake other competitors and pass when directed by the officials.

PIT AREAS

Pit Set-up

- All pit sites must be set-up as per the direction of Event Officials.
- Each team in the HPV, EEV and TRYathlon endurance trials will be allocated a site in the pit area, except where schools with three entries in a category will be allocated two pits sites.
- All pit sites are numbered and are a minimum of 2.8 metres wide by 2.0 metres deep.
- Where possible, pit numbers are the same as the team number.
- All teams must leave approx 1 metre clearance area in front of their pit site for rider changeovers and for other teams to have line of sight of the track and pit lane.
- There is no existing shelter in the Pit areas.
- Teams are encouraged to erect a small tent or arrange to share a tent with another team.
- Teams are encouraged to erect a team or school banner in their designated pit area(s) including team numbers. A banner about two by one metres would be ideal.
- HPV A teams are required to share their pit spaces - but not tools and resources - with Try-athlon teams for their Friday night Try-athlon Practice session.
- No vehicles or trailers will be allowed in the Try-athlon pit areas.

Speed in Pits

Maximum speed in the pit area is 10 km/h.

Direction of Travel in Pits

Under no circumstances shall a vehicle enter the pit area via the pit exit lane.

Pit Lane Conduct

- All rider changes shall occur in the designated area adjacent to each team's pit.
- Closed shoes must be worn in pit lane.
- Vehicles shall come to a halt in the pit lane under the effect of the vehicle's own braking system.
- Stopping with the assistance of others is not permitted.
- Rider shall bring their vehicle to a complete stop prior to unfastening seat belts.
- Rider refreshments and adjustments to clothing etc. shall only be effected when the vehicle is stationary in the pit area.
- A maximum of three students and one supervising adult, in addition to the incoming and outgoing riders, shall attend a vehicle in the pit lane at rider change-over.
- The four designated people from each team attending the vehicle in pit lane are encouraged to wear a reflective vest and must wear enclosed shoes.
- Pit entry and exit lanes shall be kept clear at all times.
- Stationary vehicles shall give way to vehicles proceeding along pit lane.

Pit Crew Communications

- The use of radio communication between rider and pit crew is permitted provided operating the unit does not interfere with the rider's control of the vehicle.
- The use of notice boards for communication between the rider and the pit crew are permitted.
- However, such notice boards and their use shall comply with the following:
 - they must be held and displayed by one person only at a time;
 - they must be held so they do not go beyond the line of pit lane barriers.

Major Repairs

- Major repairs including welding and grinding equipment must NOT be carried out in the pit lane. The pit lane includes a team's tent adjacent to the track.
- These repairs must be carried out in the vicinity of the repair container.

Removal of Components

- Redundant, superfluous and/or damaged components of substantial mass (i.e. greater than 0.5 kg) may not be removed from a vehicle except with the permission of the Clerk of Course.
- At the discretion of the Clerk of Course, the vehicle may be required to carry ballast.
- Teams may not substitute or replace power sources or strip the vehicle below its starting weight after the commencement of the event.

FUEL USE AND RECHARGING OF BATTERIES

Fuel Burning Energy Efficient Vehicles

In accordance with the EEV Vehicle specifications, fuel burning entries will receive a single allocation of fuel.

Amounts of Fuel Allocated

EEV1 Petrol + Pedal: 2 litres

EEV2 Petrol + Electric: 3 litres

Sealing of Fuel Tanks

Fuel tanks on vehicles will be sealed after the allocation of fuel prior to the start of the event.

Batteries

- At EEV teams using batteries are required to present all of their battery allocation for identification marking at scrutineering.
- All batteries must have manufacturers labels including details of battery type displayed.
- Batteries must be labelled with the school name.

Battery Recharging – Processes and Procedures

- The onus is on the teams to use safe and reliable battery chargers.
- Teams will start the Trial with fully charged batteries.
- All recharging is to be conducted in a designated area provided by the event organisers, and under constant supervision, to ensure charging is carried out in a safe manner.
- The designated recharging area will not open until one hour after the trial start.
- Batteries must be signed in and out via the designated marshal on duty at the time.
- Any team found to be charging batteries not in the designated area will be penalised.
- All battery chargers must be electrically tested and tagged. Only approved tagged chargers can be used.
- Chargers must also be presented during Scrutineering for an extra Energy Breakthrough tag to be applied.
- Battery chargers must be of a commercially available type.
- The physical dimensions of the charger must not exceed 300 mm x 300 mm x 300 mm
- Bare connections and alligator clips are strictly forbidden. All connections must be made using a properly insulated electrical connector. Anderson plugs are the preferred type of connector.
- Only one battery pack may be charged at a time. A battery pack is defined as the usual amount of batteries required to run the vehicle.
- Teams will be provided with one power outlet in the charging area, which will be fitted with a digital readout.

- [Outlets are restricted to 4 amps \(fused\) or 720W whichever is the lower and officials will disconnect chargers drawing higher amp readings and notify the team.](#)
- [Once kilowatt hour allocation has been used, the power outlet will shut off. Teams must remove their charging equipment from the container at this point.](#)

TRIAL POINT SCORING

- The vehicle completing the greatest number of laps in each class in the Trial period scores the maximum points.
- Other vehicles in each class score points for the number of laps completed in proportion to the number of laps.
- In HPV Secondary, HPV Primary and EEV classes, the Endurance trial is worth 50 points.
- In TRYathlon, the Endurance is worth 30 points.

For example, say team AA in a particular class travels the greatest distance, 200 laps, and team BB in the same class travels 160 laps.

Points scored are as follows:

Team AA: 200 laps = 50 points

Team BB: 160 laps $50 \times \frac{160}{200} = 40$ points

INFRINGEMENTS

Vehicle Design

- Vehicles which are considered safe but DO NOT comply with key elements of vehicle specifications may be given permission to start the trial with a penalty.
- This penalty can be up to 50 laps and will be applied by the event officials.

Reporting of Incidents and Timing Issues

- Teams may report track incidents or infringements of these competition rules to the Clerk of Course or Pit Marshals who will investigate and act accordingly.
- [Any queries relating to lap timing issues are to be reported to the Timing Officials as soon as practical for investigation.](#)
- [Where the Timing Officials believe there is a lap timing issue requiring correction, all such corrections shall be coordinated through the Clerk of Course or Race Director.](#)

Protests

- Teams who wish to proceed with a formal protest will be provided with the appropriate documentation via the Clerk of Course.

Penalties

- A team that breaches any trial regulation including the spirit of competition, will be notified that they are under investigation for an infringement of the competition rules.
- The Clerk of Course and event officials will review the incident and may apply a penalty which they consider is consistent with the severity and intent of the infringement.
- Incident reviews will be conducted as soon as practical, but in any case, will be resolved before the end of the endurance trial.

Penalties may take the form of:

- A warning.
- A “stop and go” penalty.
- A time penalty.
- 50 lap penalty.
- Disqualification of a rider.
- Exclusion from trial results.
- Withdrawal from competition.

