

IET FORMULA GOBLIN GUIDE

GREENPOWER EDUCATION TRUST

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SILVERLINE

IET FORMULA GOBLIN

The IET Formula Goblin is an electric kit car, designed to give young people the opportunity to build and race their own car at venues such as Goodwood. A typical build takes 15 hours and the Goblin can be dismantled and rebuilt each year with a new team of children.

FOR 9-11 YEAR OLDS

The Goblin Kit Car is designed for 9 to 11 year-old children and is ideal for schools and community groups. The kit comes with easy to follow instructions and the build requires only simple hand tools. Schools can run the project as part of the design and technology or science curriculum, or as a lunch time, after school or weekend club – with the possibility of parent support.

The children need to design and create their own bodywork once the kit has been assembled. This gives them the opportunity to be creative, look at a range of materials, consider recycling and of course make the car look as good as possible.

The car can be driven around the school playground and the team can participate in Greenpower events, held at a number of venues throughout the UK. The events give children the opportunity to take part in driver challenges and compete against other teams. The Goblin can be easily transported and will fit into an estate car with the Goblin's roll bar removed.



THE CAR

A Goblin kit includes everything needed to have an entire working car, the team just need to supply tools and bodywork. A battery charger will also be required – this can be purchased from Greenpower or elsewhere.

For up to date prices for kit cars and entry fees please see the website: www.greenpower.co.uk or contact: sales@greenpower.co.uk



KIT CAR BUILD

The build takes an average of 15 hours the first time the Goblin is built by a new team. This time scale takes into account setting up times for each new session, mistakes being made and the instructions being read for the first time. The build time will usually decrease for subsequent builds.

The kit comes with everything you need to build a Goblin car, apart from the tools. It includes simple instructions. Greenpower also provides phone and email support.

TOOLS

To build your Goblin kit car purchased **before** September 2016 you will need basic hand tools:

- A selection of screwdrivers, Allen keys and assorted metric spanners (8mm, 10mm, 13mm and 19mm)
- Pliers, small hammer and for the initial build a drill with 3mm and 6mm drill bits
- Electric tape, cable ties, fine wet and dry abrasive paper (100 – 10000 grade), masking tape, electrical insulating tape
- A light oil (e.g. 3 in 1) and a thread locking compound are also recommended

To build your Goblin kit car purchased **after** September 2016 you will need basic hand tools:

- A selection of screwdrivers, Allen keys, and assorted
- Metric spanners (8mm, 10mm, 13mm, 17 mm and 19mm)
- Pliers, small hammer
- Electric tape, cable ties, electrical insulating tape

THE CAR

USE THE SAME KIT NEXT YEAR

After the kit has been used it can be stripped back and rebuilt. This can be done by the children or by an adult before the group starts. Some parts will wear after being taken apart and put back together multiple times.

The most common parts that will need replacing over the years are: wheels (we are not currently able to offer replacement tyres, the whole wheel will need to be purchased); washers – these only cost a few pence each.

The kit must be built following the instructions. The supplied kit cannot be modified in anyway – unless it is an authorised upgrade from Greenpower. Kit cars competing will differ very slightly, depending on when they were bought and how many upgrades have been made. Upgrades are usually optional. We will inform teams if an upgrade needs to be made for safety reasons.



EVENTS

WHEN DOES THE SEASON START?

The Goblin events start in March and run through to July, finishing before the end of the summer term with the final event held at Goodwood Motor Circuit, West Sussex. This is open to all teams, from anywhere in the country.

The events calendar is available on the Greenpower website: www.greenpower.co.uk/events. Events are uploaded in December or January ahead of the season.

Goblin events run at a number of locations in the UK, including Northern Ireland and Scotland. New events will be added to the calendar when possible in areas where there is the demand for them.

HOW TO ENTER AN EVENT

To enter an event you will need to register online, then log in to your online account. You can then enter any of the Goblin events listed on the Greenpower events calendar.

All events have closing dates for registration – usually around two weeks before the event. Once registration has closed all entrants will receive event information via the email address supplied and the team will be invoiced for the entry fee. All entries will be charged the full entry fee unless they are withdrawn before the closing date given on the website.

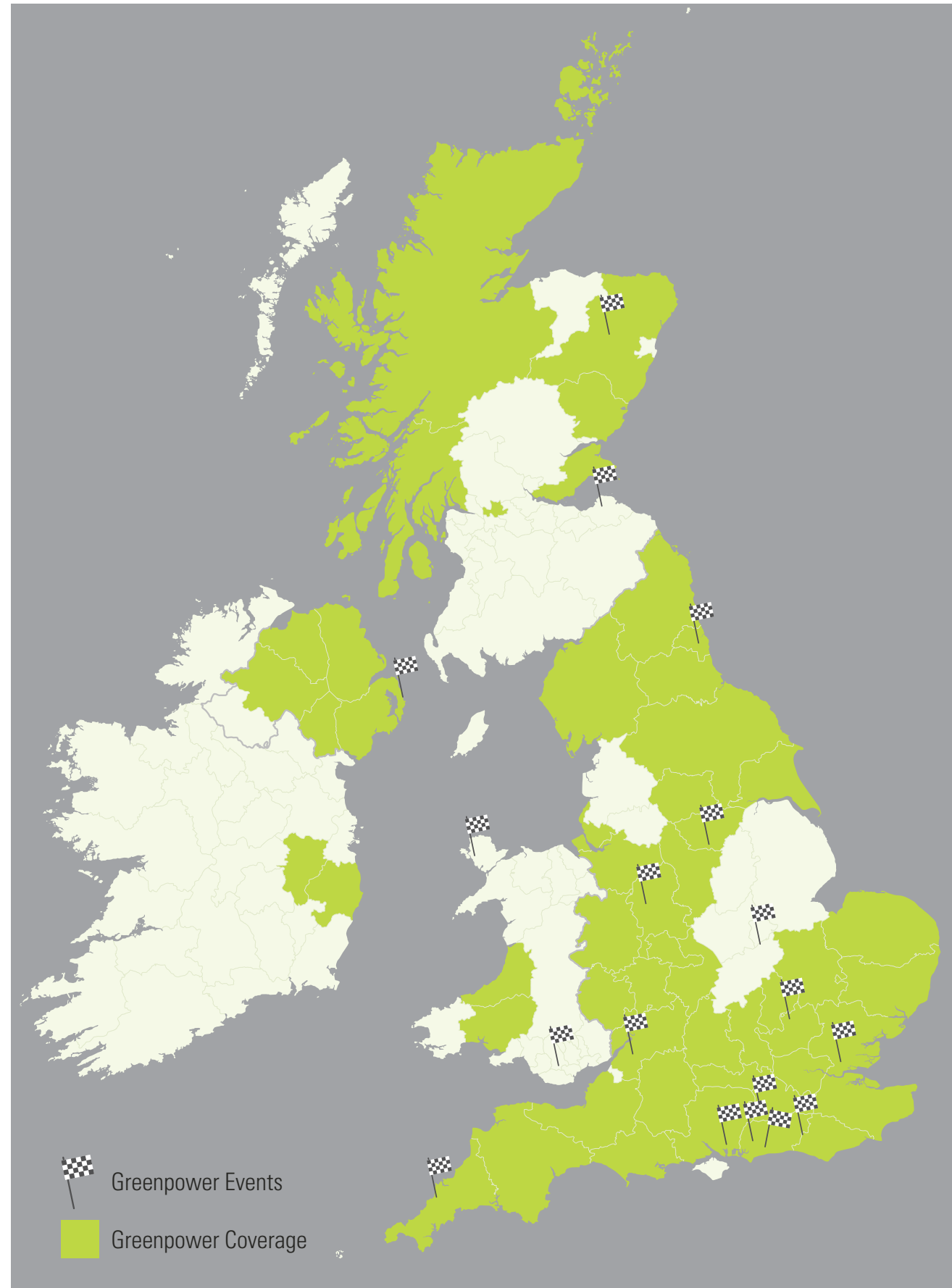
EVENTS

EVENT COSTS

Events are charged per car – a single entry fee allows a car to participate in one day's events, additional cars from the same team will be charged the same fee to participate.

There are a few events which are for invited teams only. All of these events state this clearly in the descriptions on the Greenpower website. If you wish to enter an invite only event you will need to contact Greenpower before entering online. There are some additional spaces at these events but they are limited.

Before an event we will email you an information pack, listing the event's location, timetable and other key information. A signing on form will be sent to all participating teams. This must be filled in and signed by all participating team members and countersigned by a responsible adult. Teams need to complete and hand in the form to race admin in order to participate in the event.



RACE DAY

Between eight and 25 cars will compete on a typical Goblin race day, although there are three larger events held during the racing season too. During a race day each car will have the opportunity to take part in drag and slalom challenges and a head to head sprint.

RACES

Each car has six attempts at the drag and slalom events. A minimum of one driver and one pusher and a maximum of 12 drivers and 12 pushers can take part.

Slalom event

The slalom event is a short course, driving through gates built with cones. One car runs at a time on the track and the quickest run of six attempts will go towards the final score for this event.

Drag event

The drag event is a straight line race, with two cars running as fast as they can in a straight line at any one time. Each car is timed individually on each run – the fastest run of six goes toward the final score for the event.

Head to head sprint

In the head to head sprint up to three cars will race on a small track in one heat each, leading to a quarter-final, semi-final and a final (dependant on number) to determine an overall winner for this event.

RACE TIMETABLE

Typical race day timetable:

09:00	Arrival and signing on
09:30	Scrutineering
10:00	Team briefing
10:30	Slalom and drag events
12:30	Lunch
13:00	Sprint racing
14:00	Prize giving

TEAM SIGN ON

The team sign on form will be included in the pre-race pack, which will be emailed to you before the event. The team must complete the sign on form with all members included and give it to staff in race admin. A countersignature from a parent or guardian is required for team members under the age of 18.

SCRUTINEERING

A scrutineer will check the car over to ensure it is safe to compete. The Greenpower scrutineering process checks that all elements of your car are safe and that the kit has been built according to the regulations.

The tallest driver, wearing a correctly fitting helmet, overalls, gloves and suitable footwear must be present, with the vehicle logbook and the car itself. You will need to hand in your completed scrutineering sheet and team sign

on form to race admin before you will be issued with a race transponder and can go out on track. All team members must attend the team briefing before practice begins.

To find out exactly what happens during the scrutineering process, watch this helpful guide - <https://www.youtube.com/watch?v=0T9v4qPm56o>

RISK ASSESSMENTS

A risk assessment for race days is available on our website at: www.greenpower.co.uk/about/library

INSURANCE

All Greenpower operated events are run under a Motor Sports Association (MSA) permit and are fully insured with Personal Accident and Public Liability insurance. Each race meeting will have an event permit and number that will be on display at the event. Details of our insurance are available at: www.greenpower.co.uk/about/library



AWARDS

Cars are ranked on a scoring system for each part of the event and the lowest score wins the day.

There are additional awards to be won at an event which count towards your team's overall score. Teams which hand in a portfolio will get minus points which will help lower their score and increase their chances of winning.

Additional awards at events are the:

Portfolio Award
Greenest Bodywork
Best Bodywork
Best Presented Team
Spirit of Greenpower

All these awards are judged on the day by Greenpower staff and volunteers. There will be an award for the overall winner and where relevant the regional winners too.

The criteria for all these awards can be found on our website: www.greenpower.co.uk





THE TEAM

RUNNING A TEAM

Every team is run differently. Most are run by schools but Greenpower has seen teams from Boy's Brigade groups, community groups working with the police, home educator groups and private teams run by keen parents.

HOW MANY IN A TEAM?

The size of the team while building the car is different in every situation. Between six to 20 children is normal.

On an event day up to 13 children can take part in driving the car. Most teams have six or seven drivers and a small number of pushers or pit crew.

FUNDING

Funding can be raised via many different channels. We encourage teams to contact companies regarding potential sponsorship, in terms of services, funding and resources. This can be very successful – many companies would like to see their logo on the side of an IET Formula Goblin car.

Some schools are willing to contribute towards funding a Greenpower team. Team members can also help by organising fundraising events.

Competing in Greenpower events could entitle you to certain grants. Organisations such as STEM Learning, which supports Greenpower, regularly announce funding opportunities.

SUPPORT

AMBASSADORS AND MENTORS

We have Greenpower volunteer ambassadors around the UK and Ireland who can assist you. Ambassadors may be able to introduce you to local sources of support. If we have an ambassador that covers your region we will give you their details when you sign up.

You may be in a position to become a mentor for an F24 team (for 11-16 year olds) in your area, supporting them throughout their design and build process. Your local ambassador can help you to find a team in need of some support.

You are always welcome to contact us for advice during the build. Email: helpline@greenpower.co.uk



TO GET STARTED REGISTER ONLINE

To register online go to www.greenpower.co.uk/racing/goblins/teachers and click the Register a Team button at the bottom of the page.

If you are planning on entering more than one car you only need one account per organisation. You can add another car (and contact details if they differ) on the same account.

If your organisation has registered a team with us before, please do not start a new account. Just contact us to reset the login details.

We will not automatically send you any equipment after registration. You will need to order it from our online shop: shop.greenpower.co.uk



COSTS

See www.greenpower.co.uk/racing/goblins/teachers and our online shop for Greenpower Kit Car and entry costs.

To comply with regulations every team must have the same motor and batteries, which must be bought from us via our online shop: shop.greenpower.co.uk/



HOW TO ORDER

The Kit Car can be bought from our online shop:
shop.greenpower.co.uk

Or via email: sales@greenpower.co.uk

Call Greenpower on **01243 552 305** if you would like to discuss your order over the phone first.



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MORE INFORMATION

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