

IET FORMULA 24 GUIDE

GREENPOWER EDUCATION TRUST

Greenpower
INSPIRING ENGINEERS



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IET FORMULA 24

IET Formula 24 gives secondary school age children the opportunity to design, build and race an electric, single seater car on some of the UK's top motor circuits.

FOR 11-16 YEAR OLDS

Greenpower's IET Formula 24 category has a proven track record in engaging 11-16 year olds with Science, Technology and Engineering through participation in designing, building and competing in electric, single seater racing cars.

Teams of students take part in the design and building of the car and race days. IET Formula 24 is geared towards secondary schools but we welcome private entries and teams from youth groups and engineering clubs within the 11-16 age range.



THE CAR

KIT CAR OR BUILD FROM SCRATCH?

Once you have registered your team, it is up to you to decide whether to buy a Greenpower Kit Car or design and build a car from scratch.

THE KIT CAR

A Greenpower Kit Car is the perfect introduction to IET Formula 24 for a team. It will engage students, teach them the principles of building a car and can be built in around 15 hours - this does not include the time to design and build the bodywork

The IET Formula 24 Kit Car is self-assembly and the kit includes everything you need to get the car up and running, except bodywork. The bodywork is easy to design using programmes such as Siemens Solid Edge, a CAD programme free to secondary schools, which can be downloaded at: www.siemens.com/plm/solid-edge-highschool

A CAD model of the Greenpower Kit Car is available to download at: www.plm.automation.siemens.com/en_gb/academic/projects-competitions/greenpower.shtml. The bodywork for your car can be modelled around this.

The Kit Car can be dismantled and rebuilt each year with a new team or some schools like to try and make improvements to the existing car each year. The kit comes with an easy to follow assembly manual. You will only need simple tools to build the car. These are listed in the manual.

If you would like to get a taste of Greenpower before progressing to building your own car, the Kit Car is for you. You are always welcome to contact us for advice. Email: helpline@greenpower.co.uk

SCRATCH BUILT CAR

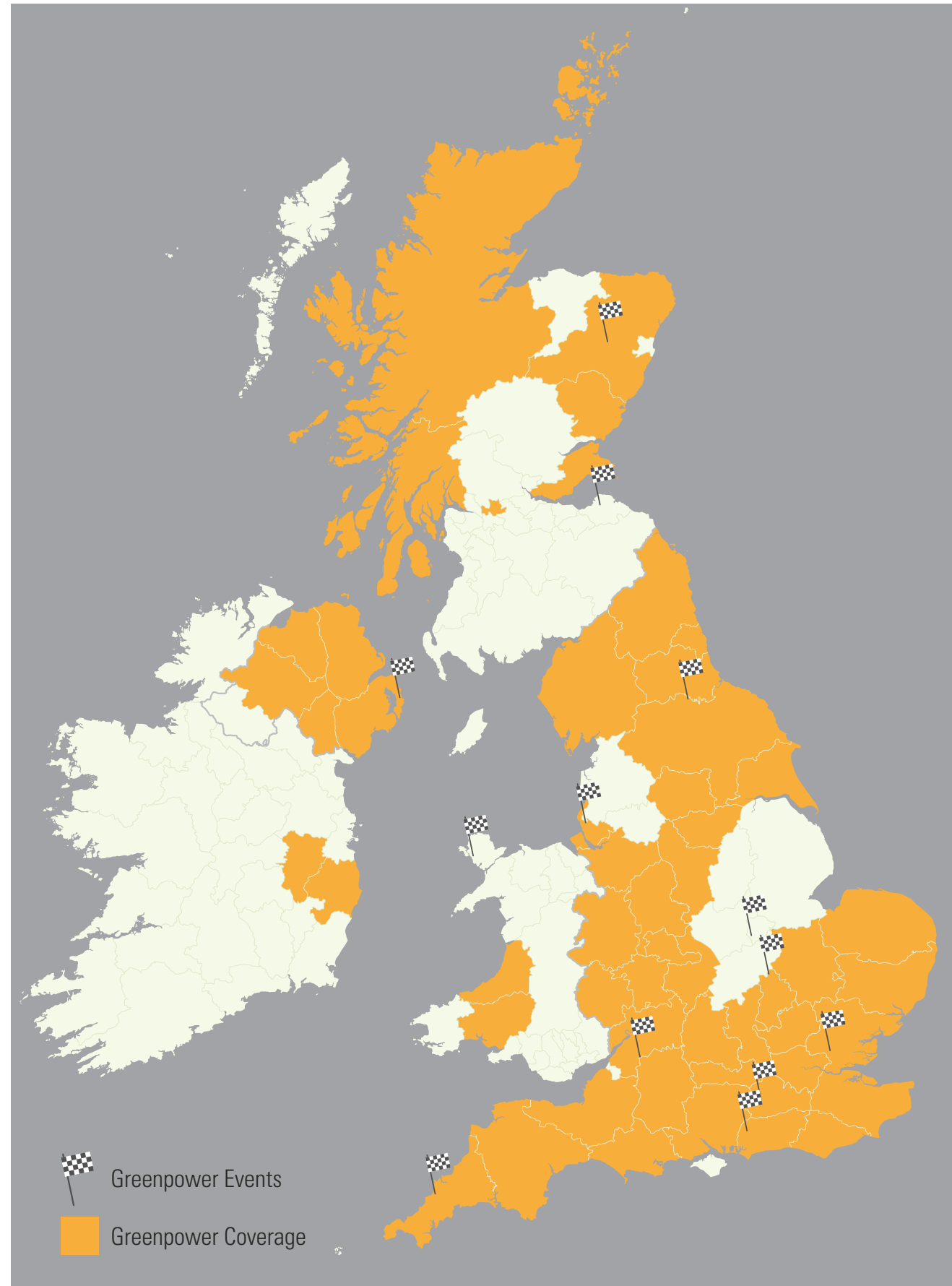
If you want to build a car from scratch, you must think about how you would construct the car, what materials to use and whether it will be possible with the resources available to you.

We can't tell you exactly how long the design and build process will take for a scratch built car, or how much it will cost, as each one has a different design, materials and manufacturing period.

Building a car from scratch is a large project. Scratch built cars must be built to the regulations of the year that you will be competing, which will be available on the Greenpower website. If you want to check whether elements of your design will comply with regulations, or you have a technical query, contact: helpline@greenpower.co.uk

If you design your car using Siemens Solid Edge your team will be eligible to enter the annual Siemens Engineering and Design Award. The winner will be announced at the IET Formula 24 International Final.





EVENTS

We have various heats held all over the UK at motor circuits such as Goodwood, Rockingham and Croft.

The heats act as qualifying rounds for our International Final held at Rockingham Motor Speedway. A total of 80 cars are invited to the International Final, which include those who have qualified on mileage, International teams and Wild Cards chosen by Greenpower.

WHEN DOES THE SEASON START?

The IET Formula 24 season runs from April to October. The season starts with a test day and Season Opener. Further test days follow, then the heats start, taking place all over the country until the end of September. We hold the International Final at Rockingham in October for teams that have qualified.

HOW TO ENTER AN EVENT

You will be able to enter all of the heats online when the calendar for each season is live on www.greenpower.co.uk/events

Current entry fees can be found here - www.greenpower.co.uk/racing/formula24 If your team has to withdraw entry to an event for any reason, we must be advised before the closing date for entries for that event or the entry fee will be charged in full.

RACE DAY

RACES

IET Formula 24 has two 90 minutes races per event. A minimum of three drivers must be used during each race. The winner is the car that goes the furthest distance in 90 minutes.

Race 1 and Race 2 are independent of each other, so you can compete in just one race on the day, or both. When you enter online you need to enter for both races if you wish to do them.

PRACTICE

The practice sessions are open to both IET Formula 24 and IET Formula 24+ teams on race days. Drivers will be made aware that there will be faster IET Formula 24+ cars on track with them in this session.

You are allowed to use a new set of batteries for practice and for each of the races but you cannot change batteries during a race.

RACE TIMETABLE

Typical race day timetable:

07:30	Teams arrive and sign on
08:15	Scrutineering opens
09:00	Team briefing 1
09:30 – 11:00	Practice
11:10	Team briefing 2
11:30 – 13:00	Race 1 (IET F24 Ages 11-16)
13:45 – 14:45	Round 1 (IET F24+ Ages 16-25)
15:15 – 16:45	Race 2 (IET F24 Ages 11-16)
17:15	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.

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

On race days we present the following awards:

IET Formula 24 Race 1 Winner
IET Formula 24 Race 1 Runner Up
IET Formula 24 Race 1 Third Place

IET Formula 24 Race 2 Winner
IET Formula 24 Race 2 Runner Up
IET Formula 24 Race 2 Third Place

IET Formula 24 Kit Car Winner
IET Formula 24 Kit Car Runner Up
IET Formula 24 Kit Car Third Place

We also provide supplementary awards to teams we feel fit the criteria. Our supplementary awards consist of the following:

The Portfolio Award
The Best Engineered Car Award
The Siemens Digital Award
The Best Presented Team Award
The Spirit of Greenpower Award
The Best Newcomer Award

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





THE TEAM

Teams at IET Formula 24 events consist of 12 students on average, of varying ages. A minimum of three drivers is required for each race. The other team members at an event are mainly pit crew.

A Greenpower IET Formula 24 build and race project creates the opportunity for students to get involved through many roles. Team members can take charge of media, business, finance or race wear, for example.

You can recruit a team in different ways. Some schools and organisations use Greenpower as an inclusion project. Others offer the opportunity to participate by announcing it in assembly, school newsletters, on school websites and social media.

RUNNING A TEAM

There are lots of different ways to run a Greenpower team. Many are run by teachers. A Greenpower team can be run as an after school or lunchtime club or as part of the curriculum. Some teams meet once a week and others meet two or three times a week, depending on how much time can be devoted to the project.

We have teams run via organisations or privately by parents and other mentors, which meet out of school or working hours. We advise that all team helpers should be Disclosure and Barring Service (DBS) checked.

FUNDING

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 a local school or organisation's IET Formula 24 car.

Students can help raise money by organising fundraisers such as supermarket bag packing and car washes.

Your school's Parent Teachers Association (PTA) may be able to help with funding. As well as organising their own fundraising activities (cake sales, quiz nights etc.) PTAs may be able to raise extra money through access to funding directories.

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 based 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.

It can also be very beneficial to find a mentor to help your team during the design and building of your car. Mentors could be engineers from a local business, former Greenpower competitors or university/college students, for example. A local ambassador may be able to help you in finding a mentor.

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/formula24 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 school/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/formula24 and our online shop for Greenpower Kit Car and entry costs. The cost of building your own car from scratch will vary.

If your team has to withdraw entry to an event for any reason, we must be advised before the closing date for entries for that event or the entry fee will be charged in full.

To comply with regulations every team must have the same motor and batteries, which must be purchased from us. If you are building a vehicle from scratch you can buy the motor and batteries from our online shop: shop.greenpower.co.uk Six batteries and a motor are included with the Kit Car.



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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