

# IET FORMULA 24+ GUIDE

GREENPOWER EDUCATION TRUST

*Greenpower*  
INSPIRING ENGINEERS



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*Ingenuity for life*

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**IET** Education  
The Institution of  
Engineering and Technology

**SILVERLINE**

# IET FORMULA 24+

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IET Formula 24+ gives young adults the opportunity to design, build and race an electric, single seater car on some of the UK's top motor circuits.

## FOR 16-25 YEAR OLDS

Greenpower's IET Formula 24+ category boosts interest and career opportunities in Science, Technology and Engineering through enabling 16-25 year olds to design, build and compete in electric, single seater racing cars.

Teams take part in the design and building of the car, race days and the IET Formula 24+ Championship. Drivers from each team compete in 60 minute endurance races. The team that goes the furthest distance within the time limit wins.

IET Formula 24+ is geared towards sixth forms, colleges and universities and apprenticeship schemes but we also welcome private entries and teams from youth groups and engineering clubs.

*"Projects like this are invaluable to companies such as Siemens, helping us to reach tomorrow's talent by engaging young people in engineering and science from an early age."* **Juergen Maier, Chief Executive Siemens plc, @Juergen\_Maier**





# THE CAR

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## 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+. 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 model of the Greenpower Kit Car is available to download at: [www.plm.automation.siemens.com/en\\_gb/academic/projects-competitions/greenpower.shtml](http://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 improvements can be made to the existing car. 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 will need to specify that you are buying a Kit Car for the IET Formula 24+ category when ordering, as it comes with different gearing to that on the IET Formula 24 specification car.

You are always welcome to contact us for advice. Email: [helpline@greenpower.co.uk](mailto:helpline@greenpower.co.uk)

## SCRATCH BUILT CAR

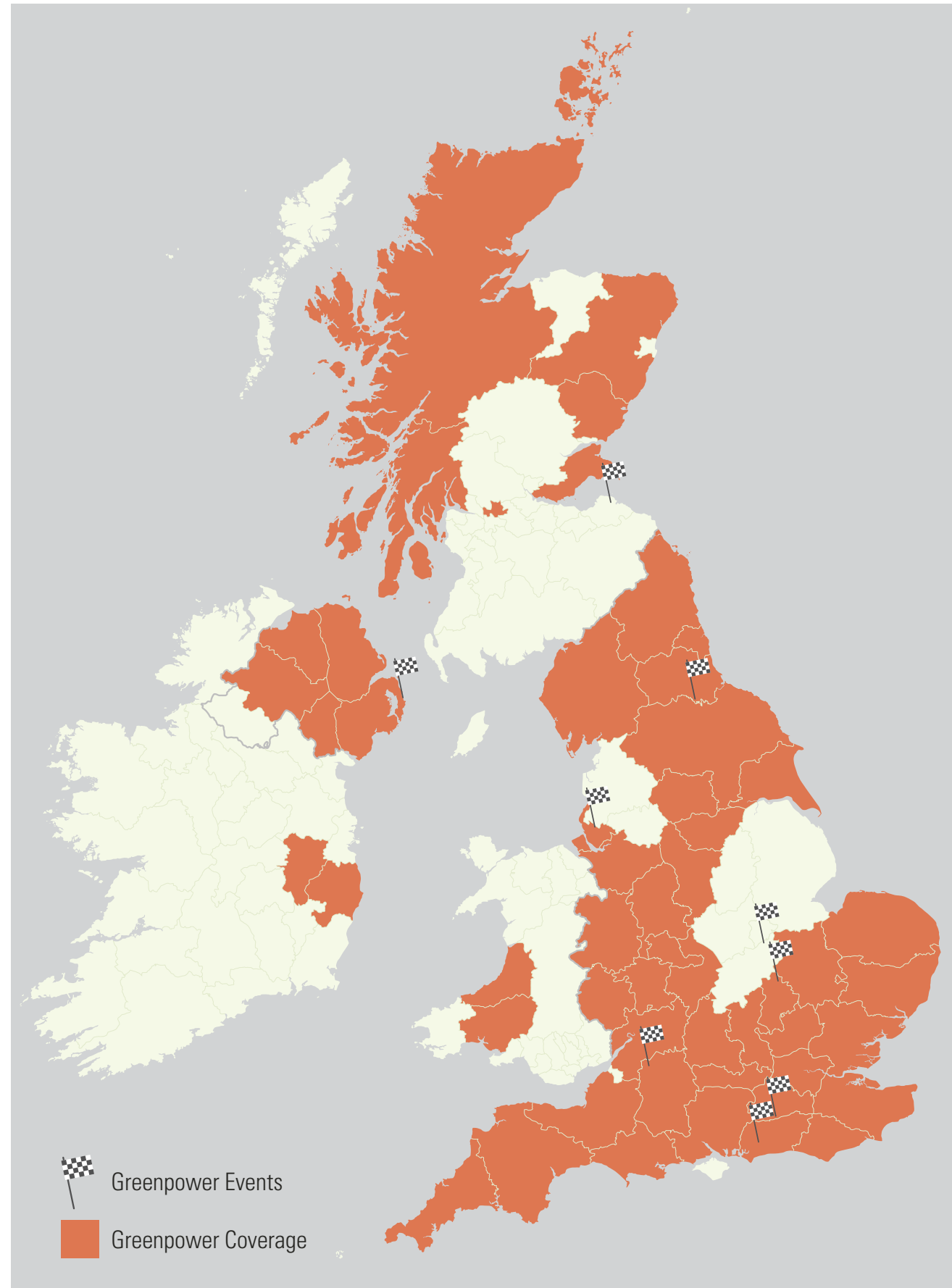
If you want to build a car from scratch, you must think about how you would construct the car, what materials to use and whether it will be possible with the resources available to you.

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: [www.greenpower.co.uk](http://www.greenpower.co.uk). 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](mailto: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

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We have regional championship rounds all over the UK at motor circuits such as Goodwood, Rockingham and Castle Combe.

The rounds act as precursors to the International Final held at Rockingham Motor Speedway. All IET Formula 24+ teams can take part in the International Final Championship round.

## 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 championship starts, taking place all over the country until the end of September. We hold the International Final at Rockingham in October.

## 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](http://www.greenpower.co.uk/events)

See [www.greenpower.co.uk/racing/formula24-plus](http://www.greenpower.co.uk/racing/formula24-plus) for current entry costs. There is a season fee charged per car. IET Formula 24+ is run as a championship and the season fee allows you to compete in as many rounds of the championship as you like. There are 10 rounds per season.

Teams must enter at least three events including the International Final Round in October to be included in the championship points table. Your team's top three results will determine its position in the final championship table.

# RACE DAY

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## RACES

IET Formula 24+ races are 60 minutes long. Only one driver is required for each race but driver changes are permitted during the race.

Each team is allowed to use a set of batteries for practice and a separate set of batteries for the race. The winner of the race is the car that travels the furthest distance in 60 minutes.

## PRACTICE

The practice sessions are open to both IET Formula 24 and IET Formula 24+ teams on race days. Drivers should be aware that there will be slower F24 cars on track with them during the practice session.

## RACE TIMETABLE

Typical race day timetable:

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

## 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](http://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](http://www.greenpower.co.uk/about/library)





# AWARDS

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On race days we present the following awards:

**IET Formula 24+ Winner**  
**IET Formula 24+ Runner Up**  
**IET Formula 24+ Third Place**

We also provide supplementary awards to teams we feel fit the criteria. Our supplementary awards are:

IET Engineering Award  
Siemens Digital Award  
Best Presented Team Award  
Spirit of Greenpower Award

The criteria for all these awards can be found on our website: [www.greenpower.co.uk](http://www.greenpower.co.uk)







# THE TEAM

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Teams at IET Formula 24+ events consist of 12 members on average, within the 16-25 year old age range. A minimum of one driver is required for each race. The other team members at an event are mainly pit crew.

A Greenpower IET Formula 24+ design, build and race project creates the opportunity to get involved through many different roles, giving experience of more than engineering and motor racing. Team members can take charge of media, sponsorship or race wear, for example.

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

## RUNNING A TEAM

There are lots of different approaches to running a Greenpower team. Some IET Formula 24+ teams meet during working hours, others during evenings and weekends. Most teams meet once a week, some more often, depending on how much time can be devoted to the project.

We have teams run by teachers, organisations and privately. Some IET Formula 24+ teams are run by engineering students, apprentices and graduates.



# FUNDING

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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 24+ car.

Some colleges and universities 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

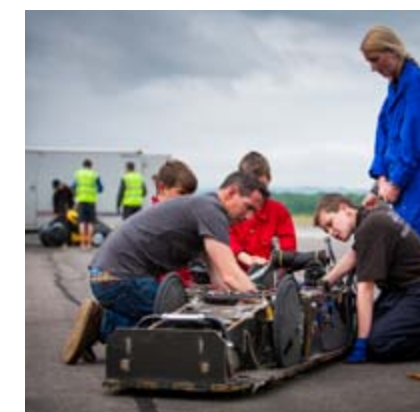
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## AMBASSADORS AND MENTORS

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](mailto:helpline@greenpower.co.uk)



# TO GET STARTED REGISTER ONLINE

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To register online go to [www.greenpower.co.uk/racing/formula24-plus](http://www.greenpower.co.uk/racing/formula24-plus) 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](http://shop.greenpower.co.uk)



# COSTS

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See [www.greenpower.co.uk/racing/formula24-plus](http://www.greenpower.co.uk/racing/formula24-plus) and our online shop for Greenpower Kit Car and entry costs. The cost of building your own car from scratch will vary.

To comply with regulations every team must have the same motor and batteries, which must be bought 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/](http://shop.greenpower.co.uk/). Six batteries and a motor are included with the Kit Car.





# HOW TO ORDER

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The Kit Car can be bought from our online shop:  
[\*\*shop.greenpower.co.uk\*\*](https://shop.greenpower.co.uk)

Or via email: [\*\*sales@greenpower.co.uk\*\*](mailto: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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If you'd like more information please contact:

Laura Horsfall

Email: [\*\*laura@greenpower.co.uk\*\*](mailto:laura@greenpower.co.uk)

Phone: **01243 552305**

## Greenpower Education Trust

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Greenpower Education Trust is a charity registered in England and Wales no. 1133536 and in Scotland no. SC046969

[\*\*www.greenpower.co.uk\*\*](https://www.greenpower.co.uk)

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