



Low carbon vehicles: The road to market

**COMPETITION FOR COLLABORATIVE RESEARCH,
DEVELOPMENT AND VALIDATION FUNDING
FEBRUARY 2012**

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Summary

The Technology Strategy Board and the Office for Low Emission Vehicles are to invest up to £25m in collaborative R&D and demonstration projects that will accelerate the commercialisation of low carbon vehicles.

We aim to strengthen UK capability by encouraging a reduction of costs in the supply base and a faster adoption of new technologies on UK roads. Our focus is on pulling technology through the various stages of the innovation chain.

We are looking to invest in highly innovative projects involving low carbon vehicles that aim to achieve significant cuts in CO₂ from road transport.

Proposals must be centred on the vehicle and cover at least one technical area and at least one competition theme as detailed in this document. Projects must be collaborative and business-led. We expect to award a range of grants from £500k and potentially up to figures in excess of £5m.

This competition opens for expressions of interest on **20 February 2012**. The deadline for expressions of interest is at noon on **28 March 2012**. The second stage for invited applicants opens on **23 April 2012** and the deadline for completed applications is at noon on **30 May 2012**.

A networking event to encourage consortia-building will be held on **10 January 2012** and a virtual networking space has been created on **_connect** at <https://connect.innovateuk.org/web/idp7>. We are specifically encouraging businesses outside the automotive sector to bring their technical knowledge and expertise to consortia.

Background and challenge

We established the Low Carbon Vehicles Innovation Platform (LCVIP) in September 2007 to promote low carbon vehicle research, design, development and demonstration in the UK to deliver:

- benefits to the UK automotive sector, including the supply chain, from growing demand for lower carbon vehicles – in domestic and international markets
- faster introduction of low carbon vehicle technology and vehicles (when compared with a purely market-driven process)
- significant reduction in carbon emissions in domestic and international vehicle markets to meet UK and EU climate change targets.

This is the seventh competition under the innovation platform's integrated delivery programme (IDP). The programme aims to integrate the low carbon vehicle innovation chain, from the science base, through collaborative R&D to fleet-level demonstration.

The programme has secured funding from the Technology Strategy Board, the Office for Low Emission Vehicles, the Engineering and Physical Sciences Research Council (EPSRC), the Department for Business Innovation and Skills, regional bodies and devolved administrations.

The innovation platform has been working with key stakeholders to understand the research priorities needed to support the future development of road vehicles.

The scope of this competition was developed with input from the Low Carbon Vehicles Innovation Platform steering group and the IDP's industry-led advisory panel.

Scope

We are looking to invest in highly innovative, business-led collaborative projects involving low carbon vehicles that aim to achieve significant cuts in CO₂ from road transport. Technologies must be centred on the vehicle.

Only road-based transport is in scope for this competition. The primary focus of the projects will need to be around the four technical areas as defined below.

This competition addresses a number of technical areas and a number of key

themes. Each project proposal must include at least one of the technical areas and at least one of the aligned competition themes.

The technical areas are:

1. energy storage and energy management
2. electric machines and power electronics
3. lightweight vehicle and powertrain structures
4. development of technologies that have the potential to radically improve a vehicle's CO₂ emissions or improve the overall efficiency compared to the current best-in-class vehicle or system.

The competition themes are:

1. Development of reduced-cost systems and components

Reducing the cost of systems and components is critical to the UK taking advantage of new opportunities in low carbon vehicle markets. Examples of the types of cost reduction are:

- a) advanced R&D projects aimed at developing new innovative low carbon vehicle technology with a specific focus from the outset on significantly reducing the cost of the component or system
- b) redesign of a component or system to be more cost effective by potentially using materials that are less sensitive to instability in the global supply chain.

2. Follow-ons to previous Technology Strategy Board projects.

We are strongly encouraging projects funded over the last four years by the Low Carbon Vehicles Innovation Platform, including strategic research projects funded by EPSRC under the IDP, to continue their development work through this competition theme. We also welcome other relevant projects previously funded by the Technology Strategy Board. Funding will be made available to industry-led projects looking to continue acceleration of the technology to market. Performance in previous projects will be taken into consideration during the assessment process.



3. Development of the UK supply chain.

Research and development activities focused around technology development that would enhance the UK automotive supply chain in order to create and grow a more flexible network of suppliers. Engagement with a vehicle manufacturer (VM) or a tier 1 business (one supplying components or services directly to a VM) that can support this activity would likely strengthen the overall proposal.

4. Technology testing and validation.

Technology validation activity with the intent to support mass market readiness. Strong input from a tier 1 business or vehicle manufacturer would be expected. It is likely that the project would need to engage in applied research and development for the first phase, working towards testing and validation of the technology in preparation for pre-production.

5. Technology readiness level acceleration.

Development of low carbon vehicle technologies that will bring products to market significantly quicker and position the UK ahead of its global competitors through a considerable reduction in development times and an acceleration in technology readiness.

General criteria

The final selection of projects by an independent assessment panel will be based on a portfolio approach across the four technology areas. The same approach may be used across smaller and larger projects. However, the overall quality of the applications across each of the four areas will be taken into consideration during final selection.

Projects should be looking to drive technology development forward, resulting in the physical demonstration of the technology at a sub-system, system or vehicle level.

The systems may be demonstrated on a test rig or on a vehicle. Funding will be available to support capital costs for test

rigs, test-rig modifications and mule vehicles to develop and prove the performance of the new system. The test rig should have new unique testing capability for the organisation. A strong case will need to be made to show this is the most cost-effective way to deliver the technology in line with an appropriate business case and an exploitable route to market.

Consortia should demonstrate the potential to build on the UK's existing capabilities, targeting global competitive advantage and economic benefit for the UK.

Each project must:

- accelerate the introduction of highly innovative technologies that build on the UK's capability and demonstrate a clear route to a viable market
- show technologies that support the delivery of current legislative and international emission targets for 2020 and 2050 timeframes
- quantify the scale of the expected CO₂ savings relative to the technology target mass market application when compared to current best-in-class
- provide evidence that the performance, durability, integrity and safety of any technology proposed will be in line with industry expectations.

Funding allocation and project details

Up to £25m has been allocated to fund highly innovative collaborative research, development and demonstration projects. We anticipate that the majority of the funding will be allocated to proposals for applied research (attracting up to 50% public funding). Projects that include elements of validation will have an applied R&D phase attracting up to 50% funding and an experimental development phase attracting up to 25% public funding. In some circumstances, projects can also include elements of industry-orientated basic research attracting up to 75% public funding.

Looking for ideas, technologies or partners to work on your project? Go to **_connect** (www.innovateuk.org/connect) and visit the competition group at <https://connect.innovateuk.org/web/idp7>

We expect to award a range of grants from £500k and potentially up to figures in excess of £5m. Projects that are requesting more than £5m of total grant and/or £2.5m of grant for an individual partner may be subject to additional assessment. Projects are expected to last between 18 and 36 months.

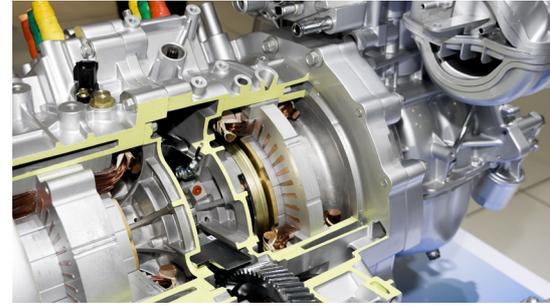
Applicants must make a robust case to support the requested level of funding against each element of the proposed project.

The funding profile is bound to each financial year. If successful, a discussion on the spend rate and expected project start date will be opened with each project.

We welcome the participation of non-UK companies that wish to set up a base in the UK. The company will have to be set up and registered within the UK before it can start to draw down the grant funding. It will also need to demonstrate that it intends to expand its activity in the UK beyond the duration of the project.

We are also specifically encouraging companies outside the automotive sector that can bring technical knowledge and expertise to a consortium to engage with the industry, and we welcome them to the networking event.

Further information can be found in the *Guidance for Applicants* (see the Competitions section of our website www.innovateuk.org) once you have registered. There will be a competition briefing on **1 March 2012**, which we strongly recommend potential applicants attend.



An innovation partnering event will be held on **10 January 2012** to present the scope and facilitate consortia-building for this competition. It is strongly recommended that you attend.

Application process

This competition opens on **20 February 2012**.

Stage 1: applicant submits an expression of interest

Stage 2: we invite selected applicants to submit a full application.

Expressions of interest (EOIs) must be submitted by noon on **28 March 2012**.

Applicants submit an EOI which is assessed by an independent panel of experts. Selected applicants will be invited to submit a full second stage application. The second stage for invited applications will open on **23 April 2012** and closes at noon on **30 May 2012**. Projects that are requesting more than £5m of total grant and/or £2.5m of grant for an individual partner may be subject to additional assessment.

The deadline for registration is noon on **21 March 2012**, one week before the EOI deadline, and applicants are advised to register early. Further details can be found in the *Guidance for Applicants* for this competition, available from our website (see **www.innovateuk.org** under Competitions) after you have registered for this competition.

If you have any queries about the technical scope of the competition or the application process, please contact the Competitions helpline on 0300 321 4357 or email competitions@innovateuk.org

All deadlines are at noon.

More information

To apply for this competition you must first register with us. You can do this by going to our web page for this competition at **www.innovateuk.org** under Competitions. When you register you will get access to all the supporting information you need to read before you apply, including the *Guidance for Applicants* and the application form.

Competition helpline:
0300 321 4357

Email:
competitions@innovateuk.org

Publicity

As part of the application process all applicants are asked to submit a public description of the project. This should adequately describe the project but not disclose any information that may impact on intellectual property (IP), is confidential or commercially sensitive. The titles of successful projects, names of organisations, amounts awarded and the public description will be published once the award is confirmed as final. Information about unsuccessful project applications will remain confidential and will not be made public. E-mail pressoffice@tsb.gov.uk with any queries.

The Technology Strategy Board is a business-led executive non-departmental public body, established by the Government. Its role is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve quality of life.

Key dates

Networking event	10 January 2012
Competition opens	20 February 2012
Competition briefing day	1 March 2012
Deadline for registration	noon 21 March 2012
Deadline for expression of interest	noon 28 March 2012
Stage 2 opens (for invited applications)	23 April 2012
Compulsory applicant briefing	1 May 2012
Deadline for receipt of full applications	noon 30 May 2012
Applicants informed of outcome	4 July 2012

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