

Technology Strategy Board

Driving Innovation



Components and Materials for Low Impact Buildings

JUNE 2008 COMPETITION FOR FUNDING

**LOW IMPACT BUILDINGS
INNOVATION PLATFORM**

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Summary

The Technology Strategy Board has allocated an indicative amount of £4 million to fund highly innovative collaborative research proposals on components and materials for low impact buildings. It is the first competition under the new Low Impact Buildings Innovation Platform, which seeks to enhance the construction industry's response to regulatory and procurement driven markets for lower environmental impact buildings.

This competition is focused on the development and integration of materials and components into buildings or building systems to achieve the government's targets for zero carbon and low water usage, for new-build housing by 2016 and new build non-domestic buildings by 2019 for England and Wales. Similar targets are being considered for Scotland and Northern Ireland.

Background

The UK Government has set a number of challenging targets for improving sustainability; starting with the overarching goal of a 60% reduction in carbon emissions in the UK by 2050.

Some of the largest environmental impacts in the UK come from buildings. These include:

- 45% of total UK carbon emissions (domestic 27%, non-domestic 18%)
- 73% of current domestic emissions arise from space and water heating;
- Domestic usage accounts for 58% of the public water supply. All other uses account for 24%, with 18% being lost in the system;
- 32% of all landfill waste comes from the construction and demolition of buildings;
- 13% of products delivered to construction sites are sent direct to landfill without being used.

The UK cannot meet its declared environmental targets without dramatically improving the life-cycle environmental cost of buildings.

In response to this societal challenge, the Department for Communities and Local Government (CLG), published its Building A Greener Future policy statement in July 2007, setting a timetable for all new homes to be zero carbon from 2016. In addition, in the 2008 Budget, Alistair Darling announced an ambition for new build non-domestic buildings to be zero carbon by 2019. The Low Carbon Building Standards Strategy for Scotland has prepared the way for similar targets for Scotland.

The Technology Strategy Board has launched a new Innovation Platform to address the research and development challenges facing businesses who will be delivering zero carbon and low impact buildings.

Scope for Applications

Many components have already been developed to achieve lower impact buildings in terms of energy use, water use and waste production. However there is still a need for highly innovative new solutions to the challenge of reducing the impact of buildings. In addition, there is a pressing need for further research and development (R&D) to integrate components into buildings at an affordable cost and in a manner suitable to high volumes. All components need to be designed with the user in mind to ensure that buildings deliver the energy and water reductions in use that were expected during the design stage. Similarly, innovative materials R&D projects will also be welcome under this call.

Examples of the challenges faced in this area are:

- Step change in the cost of low impact solutions
- Dramatic improvement in the performance of low impact solutions
- More suitable for use by the construction industry (buildability)

We welcome applications for support that involve:

- Development of components and materials for low impact buildings (reduced energy and water usage, and reduced waste production) that meet consumer needs.
- Overcoming the technical barriers and developing new processes for incorporating components and materials into buildings.
- Adapting components to improve their buildability, making them compatible with the way buildings are constructed.
- Conversion of products that already exist in other sectors to address the challenge of lowering the impact of buildings.

Proposals will be assessed against the potential impact of the proposed project on creating lower impact as-built buildings, as well as the four Technology Strategy Board Criteria:

- Significant UK research capacity to develop and exploit the technology.
- The size of the global market opportunity.
 - create value added in UK, taking account of the global market potential.
- Potential for significant Impact in the right timescale.
- A clear Technology Strategy Board role:
 - add value and address the barriers to achieving the Code for Sustainable Homes (2016) and Non-domestic buildings (2019) targets for as-built buildings.



Exclusions

Development of Renewable Energy generation components is excluded under this call, although projects overcoming the challenges of integrating existing energy generating components into buildings are welcome.

Future Competitions

The Technology Strategy Board invests in projects in a number of underpinning areas which are open to companies in the built environment sector. The Autumn 07 competition for collaborative R&D projects included five competitions relevant to Low Impact Buildings; these were Materials for Energy, High Value Manufacturing, Low Carbon Energy Technologies, Advanced Lighting, Lasers and Displays and Gathering Data in Complex Environments. There are projects funded under these competitions from companies in the built environment.

Further relevant competitions will be announced in Autumn 08. If you are unsure if your project ideas fall within the scope of this competition we recommend that you still submit a brief outline on the Expression of Interest form by 16 July to get feedback on the most appropriate route for your application.

Funding allocation and project details

The Technology Strategy Board advises on the selection of priority technology areas and is a business-led executive non-departmental public body, established by the Government. Its mission 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. An indicative £4 million of Technology Strategy Board funding is

allocated to collaborative R&D projects that address one or more areas indicated above and involve science-to-business and business-to-business interactions. Projects can range from small, highly focused basic research projects, aimed at establishing technical feasibility, through to applied research and experimental development projects configured to produce technology demonstrators, or a mixture of these. It is anticipated that most of the funding will be allocated to proposals in the applied R&D (attracting 50% public funding) or experimental development (25% public funding) categories. Projects involving industry oriented basic research (75% public funding) will be considered but a robust case must be made to support the requested level of funding.

Definitions of the above categories of research can be found in the Guidance for Applicants – see <http://www.technologyprogramme.org.uk>

It is anticipated that the majority of the total funding will be allocated to projects in the applied research category.

- Projects are typically expected to last 1-3 years, although applications will not be rejected on lengths exceeding 3 years.
- Typically a project would require support of around £200k – £1m, although no project will be rejected on the grounds of size alone, and
- Typically a project would aim to implement significant business change in a 3-5 year time frame.
- Ideally all projects should include at least one partner with defined end-user needs and
- We encourage projects that can demonstrate benefits to a number of business sectors.

The Technology Strategy Board will require all projects to provide a non-commercially confidential summary, at the start and the conclusion of the project, for dissemination.

If you have any queries about the technical scope of the competition or the application process, please contact the Technology Programme helpline on 01355 272155 or email info@technologyprogramme.org.uk

Application Process

The process for this competition is shorter than previously and is intended to offer more opportunity to applicants to discuss their proposals with Technology Strategy Board technologists. The Collaborative R&D Call opens on 11 June 2007 and closes on 1 October 2008.

The Guidance for Applicants explains the process in detail, in short, to apply please submit a brief outline of the proposal on the Expression of Interest form for this competition by 16 July 2008, that will be reviewed and feedback will be provided on 28 July 2008. The Technology Strategy Board will then invite applicants to the full stage whose proposal fits firmly within the scope of the competition. For these applicants, in the week beginning 28 July 2008, there will be opportunity to discuss the feedback with the Technology Strategy Board officials by telephone, details can be found at www.technologyprogramme.org.uk

Applicant briefings will be held on 6 June 2008 in Birmingham, 10 June in London, 23 June in Pontypridd Wales and 4 July in Glasgow and there will be further opportunity during the day for discussions with competition officials. Registration for these is through the 'Low Impact Buildings' link on the Modern Built Environment KTN website www.mbektn.org.

Applicants invited to submit a full proposal will need to send one representative of their consortium to the mandatory briefing on 20 August in London. They will also need to register their intention to apply by 24 September 2008 and submit their full application by 1 October 2008. Applicants will be informed of the outcome of their applications on 5 November 2008.



More Information

For more information about this and other events and details on how to register and apply visit <http://www.technologyprogramme.org.uk>

Helpline: 01355 272155

Key Dates – 2008

Applicant briefings	Birmingham	6 June
	London	10 June
	Pontypridd Wales	23 June
	Glasgow	4 July
Competition opens		11 June
Expression of Interest deadline		16 July
Feedback provided by		28 July
Feedback discussion in week beginning		28 July
Applicants' briefing (mandatory)		20 August
Registration of Intent to submit deadline (mandatory)		24 September
Deadline for receipt of full applications		1 October
Decision and feedback to applicants		5 November

The Technology Strategy Board
B1 North Star House
North Star Avenue
Swindon
SN2 1JF

Telephone: 01793 442700

www.innovateuk.org