



# Energy-efficient Whitehall

Competition for development contracts  
February 2010

DEPARTMENT OF  
**ENERGY**  
& **CLIMATE CHANGE**

**SBRI** Government challenges.  
Ideas from business.  
Innovative solutions.

SBRI is a programme that brings innovative solutions to specific public sector needs, by engaging a broad range of companies in competitions for ideas that result in short-term development contracts.

Joint funders >

Technology Strategy Board  
Driving Innovation



Support and resourcing by >



## Summary >

The Technology Strategy Board is launching a £2.75m SBRI initiative seeking solutions to improve the energy efficiency of buildings in Whitehall. The competition aims to demonstrate innovative retrofit solutions that reduce demand for energy and cut carbon dioxide emissions at existing government office buildings.

Four government office buildings are being considered for demonstrator projects, and a definitive list of buildings will be available when the competition opens on 22 February 2010.

The competition comprises several phases:

### Initial application

Entrants outline their proposal. They may submit an application for one or more buildings. Applicants must show that their proposal will have a lasting effect, and it must be applicable in other government properties and commercial offices throughout the UK.

### Phase 1: design proposal

Successful applicants will be offered a contract with 100% funding to produce a design proposal. Up to £20k will be available for each proposal. As part of the selection process for phase 2, applicants may have to attend an interview and present their proposal.

### Phase 2: demonstration

Applicants whose design proposal is accepted will be offered a contract with 100% funding to demonstrate their proposal. About £500k in total will be available to fund demonstrator projects in each building; although this will be flexible based on the number in each building and the range of demonstrations across all buildings. The demonstrations must be implemented by 1 March 2011.

The results of each project will be monitored and disseminated by March 2012.

The competition is open to all organisations. Individual companies or consortia may apply, and there is no limit on the size or type of company.

The term 'retrofit' should be viewed in the broadest terms: winning solutions could be anything from changes to the base building and its central services, through innovative ICT or lighting systems in specific areas, to supporting behavioural changes by management and users.

Changes to low-carbon energy supplies are not within the scope of the competition.

This competition is jointly funded by the Technology Strategy Board (£1m) and the Department for Energy and Climate Change (£1.75m), with support and resourcing from the Office of Government Commerce.

## Background and challenge >

Some 18% of the UK's CO<sub>2</sub> emissions come from public and commercial buildings.

The introduction in 2008 of mandatory Display Energy Certificates (DECs) for public buildings has highlighted the need for the Government to improve energy efficiency in all of its offices. Because of the age, heritage and high-profile location of the buildings in Whitehall, it is generally thought to be difficult to make them more energy efficient. In spite of this, many opportunities can be identified.

The way in which government offices are occupied and used is becoming increasingly similar to buildings in the commercial sector. Frequently both include complex owner, landlord and facilities management arrangements, which can add complexity to making energy efficiency improvements.

This competition is designed to address the Government's procurement needs and to prepare UK businesses to benefit from opportunities to retrofit buildings to improve energy efficiency. The competition is aligned with national policies to reduce carbon, and government targets to improve energy efficiency in its own buildings. The Government's ambitions are:

- to allocate carbon budgets to government departments, which includes emissions from their own buildings and operations
- to set targets to reduce carbon emissions from government buildings by 12.5% by 2010/11, and 30% by 2020
- to raise awareness of energy efficiency in large organisations, especially at senior level, and to encourage changes in behaviour and infrastructure.

This competition focuses on the retrofit of non-domestic buildings. It follows the successful 'Retrofit for the future' competition, launched in April 2009, which is targeting the domestic sector.

The challenge is to demonstrate solutions that reduce demand for energy (particularly electricity), that can be widely introduced, and that enable the biggest cuts in CO<sub>2</sub> emissions per pound spent. The objectives are:

- to pilot innovative energy-efficient retrofit solutions for government buildings in Whitehall
- to identify solutions that enable major improvements in the energy performance of typical government offices and that can be used in many UK office buildings
- to provide market opportunities for UK companies.

## Scope >

Techniques that reduce demand for energy and increase energy efficiency are vital to reducing carbon emissions. Measures that can be adopted include:

- developing feedback loops to connect data about energy use with business decision-making
- improving the performance, control and management of mechanical and electrical systems
- introducing intelligent business equipment through more efficient purchase, use and operation; for example, IT, networking, video and PA systems
- reducing energy use outside office hours, and changing 'default-to-on' settings
- improving facilities management arrangements.

While the competition focuses on reducing energy use and emissions from building services and electrical equipment, we will consider modifications to the fabric of the building. Renewable energy systems and low-carbon energy supplies are, however, beyond the scope of this competition.

We will provide a strategic brief outlining the needs for each building when the competition opens on 22 February 2010.

Successful applicants will be required to work closely with government departments, building owners, landlords and the existing facilities management teams. The funding needs to be spent wisely, as the focus is likely to be a relatively small demonstration within one of these large buildings.

## Application process >

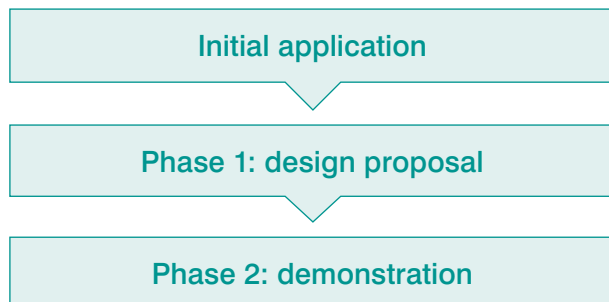
The competition is being run through the Technology Strategy Board's SBRI initiative. This is a way for government departments to find novel solutions to specific problems by engaging innovative companies they could not otherwise reach. This open and transparent competition will result in direct contracts between successful companies and the Technology Strategy Board.

This competition is governed by a clear and competitive process. Details of the process are outlined in the Invitation to Tender, a separate document, which will be available when the competition opens on 22 February 2010. Applicants must refer to the guidance in the Invitation to Tender when applying. The document will be available in the Competitions section of our website at [www.innovateuk.org](http://www.innovateuk.org)

The competition is open to all organisations, including the facilities managers, owners and landlords of the target buildings and companies not currently engaged in the buildings sector. Individual companies or consortia may apply, and there is no limit on the size or type of company. We particularly welcome applications that enable small companies to participate within the supply chain.

On 26 February 2010 the Modern Built Environment Knowledge Transfer Network (MBE KTN) will be running an event to allow applicants to find out more about the competition. Details are available at [www.mbektn.co.uk](http://www.mbektn.co.uk)

The competition comprises several stages:



Applicants who submit a successful application will be offered a contract with 100% funding to produce a design proposal (phase 1). Entrants who submit a successful design proposal will be offered a contract with 100% funding to implement their demonstration (phase 2).

Applicants are not expected to source a suitable building; we will select them. Among the buildings being considered are:

- Department for Business, Innovation and Skills, 1 Victoria Street
- Department of Energy and Climate Change, 3 Whitehall Place
- Department of Communities and Local Government, Eland House, Bressenden Place
- Foreign and Commonwealth Office, King Charles Street.

We will provide a definitive list of buildings when the competition opens on 22 February 2010. A strategic brief will describe the energy themes and the style of management and operation for each building.

### Initial application

Entrants must submit a short application form outlining their proposal. This must be based on the strategic brief, and no access to the individual buildings will be available at this point in the competition. Entrants may submit proposals for one or more buildings. The Invitation to Tender provides full details of how to complete and submit the application form.

Full details of the assessment criteria will be available when the competition opens, and will include:

- an estimate of the energy and carbon savings per pound spent on a lifecycle basis
- the ability to apply the solution in other government and commercial buildings
- the potential to minimise disruption, enabling business to continue during retrofitting
- the ability to work within the competition timeframe.



## Phase 1: design proposal

Successful applicants will be offered a contract with 100% funding to produce a design proposal. Each proposal will be funded to a maximum of £20k. We will arrange building visits for applicants selected to produce a design proposal. Proposals should include:

- the design concepts of the proposed solution
- implications for users, facilities management and senior managers
- approvals that may be required; for example, planning, building regulations, landlord
- track record or 'test bed' performance of the proposed solution(s)
- an estimate of the potential energy and CO<sub>2</sub> savings for the demonstration area
- the level of disruption anticipated
- how the solution will be implemented and by whom
- the ability to scale the proposed solution within the building, and an estimate of whole building energy and CO<sub>2</sub> savings
- the opportunity to replicate it in other buildings
- the ability to meet the competition timeframe
- monitoring and reporting procedures for a suitable period after implementation
- an explanation of how the solution will integrate into the building in the long term.

We will assess the design proposals and select those that will continue to the next phase. As part of this process applicants may have to attend an interview and present their proposal. Further details are provided in the Invitation to Tender.

## Phase 2: demonstration

Companies that submit successful design proposals will be offered a contract and 100% funding to implement their demonstration. About £500k in total will be available to fund demonstration projects in each building; however, the amount of funding for each building will depend on how many demonstrations are selected for each building and the range of demonstrations across all buildings.

The demonstrations must be implemented by 1 March 2011.

Once the solutions have been implemented a post-occupancy assessment will be carried out, and monitoring undertaken to determine actual reductions in energy use and CO<sub>2</sub> emissions. The results will be disseminated by March 2012. The post-occupancy and monitoring process will be funded by the Technology Strategy Board and conducted in collaboration with each contract holder.

## Key dates >

Initial application	
Application forms available	22 February 2010
Event run by MBE KTN to provide more information about the competition	26 February 2010
Deadline for applications	19 April 2010 (noon)
Notification of decision	26 May 2010

Phase 1: design proposal	
Design proposal contracts awarded	9 June 2010
Deadline for design proposals	29 July 2010
Interviews and presentations	7 & 8 September 2010
Notification of decision	14 September 2010

Phase 2: demonstration	
Demonstration contracts awarded	30 September 2010
Work to be completed by	1 March 2011
Monitoring, post-occupancy assessment and dissemination of results	By March 2012

## Publicity >

The Technology Strategy Board frequently publicises the results of competitions and this includes engagement with the media. All applicants will be given a chance during the competition process to opt out of any publicity. Willing applicants will be asked to provide an agreed form of words for use in publicity material. Email [pressoffice@tsb.gov.uk](mailto:pressoffice@tsb.gov.uk) with any queries.

## Further information >

For more information about this and other competitions, and details of how to register and apply, please see [www.innovateuk.org](http://www.innovateuk.org) under Competitions.

Helpline: **0300 321 4357**

Email: [competitions@tsb.gov.uk](mailto:competitions@tsb.gov.uk)



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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.