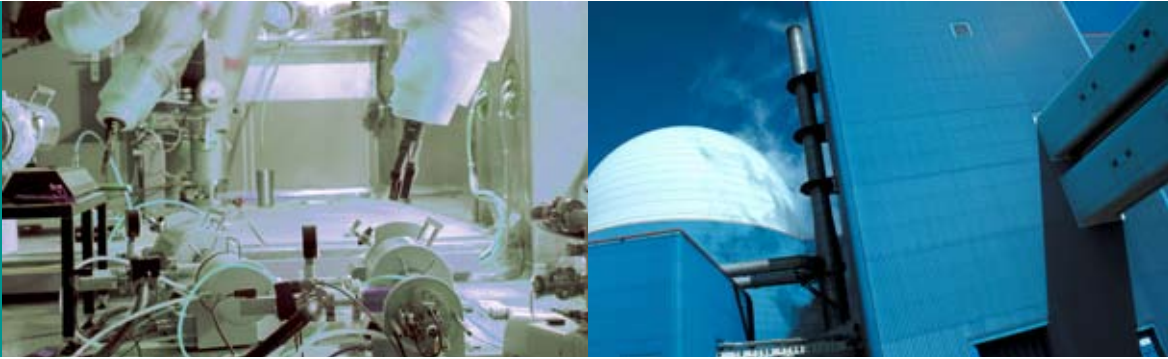


Technology Strategy Board

Driving Innovation



Nuclear R&D feasibility studies

COMPETITION FOR FUNDING

JUNE 2010

ENERGY GENERATION & SUPPLY APPLICATION AREA

Nuclear R&D feasibility studies

COMPETITION FOR FUNDING

Summary

The Technology Strategy Board is investing up to £2m in feasibility studies to stimulate innovation and strengthen the supply chain in the area of nuclear R&D and its applications.

This competition encourages businesses not currently working in the nuclear sector to explore the opportunities that the predicted global civil nuclear resurgence presents. In addition, it will allow the existing supply chain to engage with innovative technology providers and explore opportunities for growth.

We see support for small and medium-sized enterprises (SMEs) to work with major companies in the civil nuclear sector as essential and it will help to develop and sustain the strongest possible UK supply chain.

Therefore, we will be giving priority to applications that are led by SMEs (or have their strong involvement) working with larger organisations already operating in the nuclear supply chain or those that anticipate doing so. This will probably involve building consortia who have not worked together before, which we are encouraging.

Applications involving academia are eligible, where a clear route to market is identified and an industrial partner is leading the consortium.

Funding will be invested in feasibility studies which cover the evaluation of innovative technologies, their applications and technology transfer that could lead to their future development and application in civil nuclear plants and develop business opportunities in this growing area.

Feasibility studies may cover areas including, but not limited to:

- existing technologies from other sectors (such as automotive, aerospace, power generation, manufacturing and medical) applied to the nuclear sector
- application of novel or new technologies into the sector
- innovative knowledge capture and transfer activities that will ensure existing UK expertise is not lost
- technologies that will deliver cost reduction and efficiency improvements.

Technologies supporting the full fuel cycle, non-proliferation, balance of plant, nuclear decommissioning and waste management are included in the scope.

Background

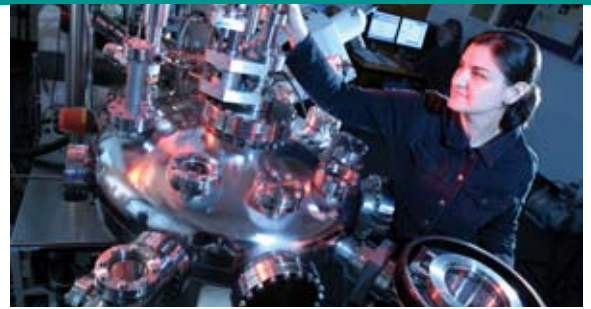
With a global market over the next 20 years valued at around £600bn for new nuclear build and £250bn for decommissioning, waste treatment and disposal, the predicted resurgence in the nuclear market could lead to significant opportunities for UK businesses both nationally and globally in the area of nuclear engineering and its associated technologies.

As part of our *Energy Generation & Supply Strategy* and in order to understand how UK business could take advantage of the forecast resurgence in civil nuclear power generation, we jointly commissioned an independent review of the UK's R&D capability with a number of RDAs, with a view to providing evidence where public sector support and investment would be most appropriate in technological and economic terms.

A review of the UK's nuclear R&D capability highlighted a number of areas where the UK still has outstanding capability, from which, with suitable support and development, there could be sustained benefit. In particular, it highlighted the latent potential within UK SMEs to encourage innovation in the civil nuclear sector by transferring skills and technology to, and from, larger companies in a number of key underpinning areas. The engagement of SMEs with major players in the civil nuclear sector will help to develop a strong UK supply chain, which may otherwise not happen.

We strongly recommend that applicants read this review before applying.





Scope

All proposals must explain how the work will assist in developing technologies which will support UK business in the civil nuclear industry and also how it will strengthen the supply chain. The output of the feasibility studies will, in most cases, be in the form of reports, studies, engineering drawings or laboratory scale demonstration of hardware or software. An exploitation plan must also be provided at the end of the project that identifies the next steps to commercialisation.

The high level, long-term challenge that the feasibility studies should address is to support the ultimate deployment of innovative technologies that would lead to **cost effective, energy efficient solutions** with high reliability, safety and durability.

Proposals will address these challenges by focussing primarily, but not necessarily exclusively, on one or more of the following:

- condition monitoring and preventative maintenance
- non-destructive testing and examination (NDT/NDE)
- materials degradation, structural integrity and lifetime prediction
- materials modeling
- digital command and control systems
- sensors and electronics
- advanced manufacture and maintenance technologies
- fuel systems
- innovation for the balance of plant
- decommissioning and waste handling
- knowledge capture, storage and transfer
- advanced modeling of whole systems, structures and components
- construction technologies
- innovation around certification processes (such as streamlining and acceleration).

Feasibility studies should typically look forward to commercialisation within 10 years.

Funding, Timescale and Eligibility

An indicative amount of up to £2m of funding is allocated to this competition.

Feasibility studies can attract up to 75% public sector funding, with the total value of a project being a maximum of £150k.

The feasibility studies will:

- usually last six months, with the maximum duration being 12 months
- be industry-led. We are specifically targeting SMEs that will preferably lead the project or be a major contributor
- comprise at least two organisations which should include at least one SME (preferably as a lead contractor).

We will consider proposals involving academia and research establishments provided they are led by an industrial partner and have a clear potential route to market.

Application Process

The purpose of this £2m competition is primarily to get SMEs and key research organisations to work with large companies through the funding of short-term feasibility studies across a number of technologies. These may be either new or adapted from use in other sectors (such as aerospace, automotive, conventional or renewable power generation and medical), with a view to evaluating their applicability, viability and commercial potential for nuclear applications.

Key dates

Competition opens	14 June
Compulsory briefing day	24 June
Deadline for receipt of full applications	22 July (noon)
Decision and feedback to applicants	20 August

The competition particularly targets SMEs that have technologies they believe can provide innovation and added value to the civil nuclear sector and are considering entry into this market, but require technical feasibility studies to support their business case. This will probably involve building consortia who have not worked together before, which we are encouraging.

This is a single stage application process that opens on **14 June 2010**. There will be a compulsory briefing day on **24 June 2010**.

The application form, including annexes and finance forms, has to be submitted by noon on **22 July 2010**.

Following an independent assessment process, applicants will be informed of the decision on **20 August 2010**.

Further information

For more information about this competition, and details of how to register and apply, please see www.innovateuk.org under Competitions.

The Guidance for Applicants is also available online.

A review of the UK's nuclear R&D capability – A report by the Dalton Institute, National Nuclear Laboratories and Battelle, January 2010 is available at www.innovateuk.org under Publications /Reports.

Applicants should read this review before applying.



Competition helpline:
0300 321 4357

Email:
competitions@tsb.gov.uk

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. 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.

Collaborative research and development is part of the Government's Solutions for Business portfolio.

The Technology Strategy Board
North Star House
North Star Avenue
Swindon
SN2 1UE

Telephone: 01793 442700

www.innovateuk.org